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DIVISION OF ECONOMICS AND HISTORY

PRELIMINARY ECONOMIC STUDIES
OF THE WAR

ECONOMIC EFFECTS OF THE WORLD WAR
UPON WOMEN AND CHILDREN
IN GREAT BRITAIN

SECOND (REVISED) EDITION

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Carnegie Endowment for International Peace

DIVISION OF ECONOMICS AND HISTORY

JOHN BATES CLARK, DIRECTOR

PRELIMINARY ECONOMIC STUDIES OF THE WAR

EDITED BY

DAVID KINLEY

President of the University of Illinois

Member of Committee of Research of the Endowment

No. 4

ECONOMIC EFFECTS OF THE WORLD WAR UPON WOMEN AND CHILDREN IN GREAT BRITAIN

BY

IRENE OSGOOD ANDREWS

Assistant Secretary of the American Association
for Labor Legislation

AND

MARGARETT A. HOBBS

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ECONOMIC EFFECTS OF THE WORLD WAR
UPON WOMEN AND CHILDREN
IN GREAT BRITAIN

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Preliminary Economic Studies of the War

EDITED BY DAVID KINLEY

*President of the University of Illinois
Member of Committee of Research of the Endowment*

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EDITOR'S PREFACE

The following work on the "Economic Effects of the War upon Women and Children in Great Britain," by Mrs. Irene Osgood Andrews, Assistant Secretary of the American Association for Labor Legislation, is the fourth in the series of preliminary war studies undertaken by the Endowment. Mrs. Andrews' monograph is a sympathetic study of the situation by one who has long been familiar with working conditions of women and children in this country and abroad and the methods undertaken for their improvement. The author points out the difficulties and evil results of the hasty influx of women and children into industrial fields vacated by men who had gone into the army, but reaches the conclusion that on the whole the permanent effects are likely to be good. Such a conclusion by an author whose sympathies with laboring women and children are deep and whose outlook is broad is hopeful and cheering.

In the opinion of the editor, Mrs. Andrews has done her country a service in preparing this monograph, for her recital of the difficulties and evils of the British readjustment will enable our people to meet the same crisis when it comes upon us, as it surely will if the war continues, in the light of the experience of our Allies. If we go about the matter intelligently in the light of this study, we should be able to avoid some of the difficulties and evils of British experiences in this matter and open the way for a larger industrial life to women, while maintaining and indeed even improving, as we should, the conditions under which they are called upon to work and live.

DAVID KINLEY,
Editor.

AUTHOR'S PREFACE TO REVISED EDITION

Following the publication of the first edition, opportunity came in 1919 to visit again both England and France and to secure first hand information concerning the effects of the war upon the economic position of women. As a member of the commission sent by the Young Women's Christian Association to study the industrial outlook for women and children, there was occasion to interview many representative people in this field and to collect a large amount of recently published material bearing upon the subject.

The world conflict brought to women, in those countries where the industrial system was kept intact, an extraordinary invitation to active employment outside the home and in new occupations. In England and France millions of women were dislodged from their accustomed tasks and thrown into novel positions in industry, in trade and commerce and even in the professions. Many thousands have remained in the new occupations, and the vast majority will never be content to go back to their former places on the old terms.

The remarkable physical endurance of the women doing war work has been very generally recognized. This endurance has been attributed partly to the zeal of the women, but more particularly to higher wages, which enabled them to secure better food, clothing and lodging. Comfort from increased income was supplemented by canteens, welfare work and greater consideration in general for the health of wage earners.

Will woman's improved income level be permanent? Careful analysis shows that during the war, despite government pledges, women did not receive equal treatment with men in respect to wages. Moreover, while money wages in many cases were greatly increased, seldom did they keep pace with the advancing cost of living. Furthermore, it

became doubtful whether women were to be allowed to retain the more attractive positions if these were desired by men.

No one, since the war experience, doubts the skill and adaptability of women in performing a great number of tasks formerly considered "men's work." With the extensive standardization which British industry has adopted many more places can be successfully filled by women. Equal opportunity to secure positions, as well as equality of payment, appeals therefore to many thousands of women as merely a matter of justice. But such a new status for women, it is recognized, calls for more scientific methods in fixing wages. The old basis of sex, family obligation, tradition as to "men's work" and "women's work," must be abandoned. Instead, some definite rate for a specified occupation, and where possible specified qualifications as to ability for such work, must be adopted. Moreover, it is increasingly recognized that the national welfare demands that money wages must be at least equal to the cost of living.

Such a program would place men and women more nearly on a strictly competitive basis, with the awards given to the most efficient. It would practically eliminate the constant "undercutting" now taking place and would introduce a more scientific element into the present chaotic wage market.

The insistent need for a thoroughgoing revision as to methods of determining wage rates is recognized by Mrs. Sidney Webb in her minority statement in the *Report of the War Cabinet Committee on Women in Industry*, 1919. Mrs. Webb recommends for immediate adoption four main principles. (1) The establishment of a national minimum rate of wage; (2) the determination of a standard or occupational rate above the national minimum; (3) the adjustment of money wages to the cost of living; and (4) wherever possible the requirement of efficiency qualifications. As to children and "young persons" in Great Britain the Fisher Education Act already has indicated a greater emphasis on training and there is hope that their employment

will eventually become either subordinate to or, better still, a part of education.

The scarcity of labor now presents an appalling problem in several countries and one of the outstanding effects of the loss of human life in all war stricken nations is renewed interest in the protection of motherhood. In these countries measures are being adopted to conserve the lives of mothers and babies. Better medical and nursing care are recognized as essential, cash maternity benefits are increasing, maternity centers are being greatly extended and in England the endowment of motherhood is proposed.

This revised monograph, while attempting to present a fairly complete history of the industrial experience of women and children during and immediately following the war, is still necessarily tentative. Some years must elapse before it will be possible to measure the full effects of the world war upon the economic condition of women and children. This revision is brought out, however, at this time to supply a demand which quickly exhausted the first edition, and in the hope that it will be of service to those interested in the progress of women industrial workers.

IRENE OSGOOD ANDREWS.

New York City,
April, 1920.

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ECONOMIC EFFECTS OF THE WORLD WAR UPON WOMEN AND CHILDREN IN GREAT BRITAIN

CHAPTER I

Introductory Summary

Under the conditions of modern warfare the industrial army in factory, field and mine is as essential to national success as the soldiers in the trenches. It is estimated that from three to five workers are necessary to keep a single soldier at the front completely equipped. Accordingly, it is not surprising that Great Britain during four years of warfare saw what was little short of an industrial revolution in order to keep up the supply of labor, to heighten the workers' efficiency, and to secure their cooperation. No changes were more interesting and important than those which concerned working women and children.

Increase in Numbers

Upon women and children fell much of the great burden of keeping trade and industry active and of supplying war demands when several millions of men were taken away for military service. "Without the work of the women the war could not have gone on," said representatives of the British Ministry of Munitions while in New York in November, 1917. Before the increased demand was felt, however, the dislocation of industry during the first few months of war brought far more suffering to women workers than to men. In September, 1914, over 40 per cent of the women were out of work or on short time. The "luxury" trades, which employed a large proportion of women, were most severely affected, and the women could not relieve the situation by

enlisting as the men did. The prewar level of employment was not reached until April, 1915. Between that date and July, 1918, the number of females gainfully occupied increased by 1,659,000 over the number at work in July, 1914.

It is more difficult to ascertain the exact increase in the number of working children and young persons under eighteen, but apparently more children left school for work directly at the end of the compulsory education period and more were illegally employed. Official reports show an increase from 1,936,000 in July, 1914, to 2,278,000 in January, 1918, or 17.6 per cent, in the number of boys and girls under eighteen who were gainfully employed. In addition, in August, 1917, Mr. Herbert Fisher, president of the Board of Education, admitted in the House of Commons that in the past three years some 600,000 children under fourteen had been "put prematurely to work" through the relaxation of child labor and compulsory school laws. But in October of the same year the Board of Trade stated that 90,000 boys had left school for work during the war. The earlier exemptions, statistics of which have been published, were almost entirely for agriculture, but judging from Mr. Fisher's statement a considerable number of exemptions were made for mining and munitions work during the third year of the war.

One of the most notable effects of the war was the number of occupations which women entered for the first time, until, in the winter of 1916-17, it could be said that "there are practically no trades in which some process of substitution [of women for men] has not taken place." According to official figures, 1,816,000 females were taking men's places in April, 1918.

During the first year of the war, however, women took men's places for the most part in transportation, in retail trade and in clerical work rather than in manufacturing. In factory work, while some women were found to be undertaking processes slightly above their former level of skill in establishments where they had long been employed, the most general change was a transfer from slack industries to fill the expanding demands of firms making war equipment.

There women were employed in the same kinds of work they had carried on before the war. The rush into the munitions industry, where women engaged in both "men's" and "women's" work, was one of the most important features of the second year of war. While a few additional women had begun to be taken on very early in the war, the increases were not large until the autumn of 1915 and early winter of 1916. During 1915-1916 also a decline was first noticed in the number of women in domestic service, in the printing trades, and in such typical "women's trades as confectionery and laundry work.

In the third year of the war the substitution of women for men on a large scale was extended from munitions to numerous staple industries having a less direct connection with the war. In many cases, of course, the women did not do precisely the same work as their masculine predecessors. Especially in the engineering trades almost an industrial revolution occurred between 1914 and 1917. Skilled processes were subdivided, and automatic machinery was introduced, all the changes tending toward greater specialization and the elimination of the need of all round craft skill. Early in the war it was generally considered that women were not as efficient as men except on routine and repetition work. But as the women gained experience it was observed that more and more of them were undertaking the whole of a skilled man's job, and the testimony as to relative efficiency, on work within a woman's strength, became far more favorable. During the last year of the struggle, while a few new fields were invaded, the process of substitution had progressed nearly as far as possible, and the year witnessed mainly a settling down into the new lines of work previously entered.

Though the increase in women workers in agriculture was less marked than in industry, beginning with the summer of 1916, the numbers rose, being 113,000 in 1918, in contrast to 80,000 in 1914. The widening of professional opportunities and the opening of some executive positions in industry and commerce were other important features of the changes in women's work.

Women even engaged in work ordinarily a part of soldiers' duties. Besides thousands of military nurses, a special corps of women under semi-military discipline was recruited for work as clerks, cooks, cleaners, chauffeurs and mechanics behind the lines in France. These "Waacs," as they were popularly called, numbered over 50,000 by the end of the war. The "Wrens" did similar shore duty for the Navy, and the "Wrafs," woodcutting for the Board of Trade. The women were able to take up their new lines of work with surprisingly little formal training, the chief exceptions being short practical courses for farm workers and semi-skilled munition makers.

Changes in the work done by children were considerably different for girls and for boys. For girls the choice of occupations widened much as for adult women. But for boys, though a few received earlier promotion to skilled men's work than would ordinarily have been the case, on the whole training for skilled trades declined. With the men drawn into the war and with the increasing cost of living, it was natural that an increase should take place in the number of child street traders, and in the number of children working outside school hours.

Wages

Under war conditions the wages of both women and children were raised, probably the largest gains being made by boy and girl munition makers. The smallest rise seems to have occurred in the unregulated, so-called "women's trades," like laundry work. The trade boards made a number of increases in the industries within their jurisdiction, but the changes were seldom proportionate to the increase in the cost of living. Instead, what it was believed the industry would be able to support after the war was usually the determining factor. The economic position of the women who took men's places was undoubtedly improved, though, even taking into account differences in experience and efficiency and the numerous changes in industrial method, the plane of economic equality between the two sexes was rarely attained. The government had the

power to fix women's wages on munitions work and in so doing it seemed at first to go on record in favor of the equal pay principle. But, in practice, the principle was not applied to unskilled and semi-skilled time work and the women failed to receive the same cost of living bonuses as the men, though unquestionably the wages of women substitutes in munitions work was much higher than the prewar level of women's wages. Where other industries were covered by trade union agreements, women in most instances received "equal pay," but in the remaining cases of substitution, for instance in agriculture, though considerable increases were gained, the men's rates were by no means reached.

Recruiting New Workers

It is of interest to learn how England secured women workers to meet the demands of war. For the most part they came from three different groups. First, workers changed from the low paid "women's trades" and various slack lines of work to munitions and different kinds of "men's work." Second, the additional women workers were mainly the wives and other members of working men's families, most of the married women having worked before marriage. Soldiers' wives often found their separation allowances insufficient. In general both patriotic motives and the rising cost of living undoubtedly played a part in sending these women and many young boys and girls into industry. Finally, a comparatively small number of women of a higher social class entered clerical work, agriculture and the munitions factories, in many instances in response to patriotic appeals.

Many of the women and children were recruited through the activities of local representative "Women's War Employment Committees" and "County Agricultural Committees," formed by the government, and working in close coöperation with the national employment exchanges. A large number of women, about 5,000 a month in the winter of 1917, and even a good many young boys and girls were sent through the exchanges from their homes to work at a

distance. According to representatives of the Ministry of Munitions, the securing of their well being outside the factory under such circumstances was the most serious problem connected with their increased employment. Efforts to provide housing, recreation and improved transit facilities were at first in the hands of the voluntary committees, but later it proved necessary for the Ministry to appoint "outside welfare officers" to supplement and coordinate this work. The "hostels" with their large dormitories and common sitting rooms which were frequently open in munition centers for the women proved unsatisfactory because of the rules required and the difficulties of maintaining necessary discipline. In many cases, also, they were unpopular with the women themselves. In an attempt to solve the housing problem, the government, in the summer of 1917, was forced to enact a measure making compulsory the "billeting" of munition makers with families living in the district, but this does not seem to have been put into actual practice.

Removal of Trade Union Restrictions

Trade union restrictions on the kinds of work women were allowed to perform were set aside for the war period and "dilution" was made widely possible by the munitions acts, in the case of munitions of war, and by agreements between employers and employes in many staple industries. In all cases the agreements included clauses intended to safeguard the standard wage rate and to restore the men's places and the trade union rules after the war. Even where the munitions acts gave the government power to force "dilution" it proceeded mainly through conferences and agreements.

Officials of the Ministry of Munitions claimed to believe that the substitution of women or any other important change intended to increase production could only proceed peacefully if labor's consent and cooperation were secured. They believed also that provisions to safeguard labor standards are essential to gain such cooperation, and that any-

thing in the nature of coercion or a "labor dictatorship" would necessarily fail to reach the desired aim of enlarged output.

Control of Labor by the Munitions Acts

Considerable irritation was aroused among the munition makers, both men and women, by the control exercised over them through certain features of the munitions acts. Strikes were forbidden and provision for compulsory arbitration was made. Special munitions tribunals were set up which might impose fines for breaches of workshop discipline. In order to stop the needless shifting from job to job which was hampering production, a system of "leaving certificates" was established. Workers who left their previous positions without such cards, which could be secured from employers or from the tribunals only under specified conditions, might not be employed elsewhere for six weeks. The clearance certificate system was obviously open to abuses, especially during the first few months of its operation, before a number of safeguards were introduced by the first munitions amendment act, in January, 1916. It created so much unrest among the workers, that it was abolished in October, 1917. The British Government's experience with these features of the munitions acts which approach nearest to the conscription of labor illustrates the difficulties attendant upon such devices for obtaining maximum output without interruption.

Safety, Health and Comfort

The effect of the war on the working hours of English women and children centers in the changes made in the restrictive legislation in force at the outbreak of the war. This legislation forbade night and Sunday work, and hours in excess of ten and a half daily and sixty weekly in nontextile factories; and ten daily and fifty-five weekly in textile factories. But from the beginning of the war up to the latter part of 1915 hours were lengthened and night and Sunday work became frequent, both by means of special orders from

the factory inspection department and also in defiance of the law. Two special governmental committees were finally created to deal with the unsatisfactory situation. The studies by one of them, the Health of Munition Workers Committee, on the unfavorable effects of long hours on output, were a determining factor in securing a virtual return to prewar standards of daily hours, and provided scientific arguments to strengthen the active postwar movement for a general eight hour day.

The introduction of women into factories and offices for the first time often led to the making of special provisions for their safety, health and comfort. In the interests of output, the Ministry of Munitions fostered such developments in the establishments under his control, encouraged the engagement of "welfare supervisors" for women, girls and boys and gave special attention to the well-being of munition makers outside the factory. The Ministry allowed owners of controlled establishments to deduct the cost of special welfare provisions for women, such as wash rooms and rest rooms, from what would otherwise be taken by the excess profit tax. It provided housing accommodations on a large scale—for 60,000 workers, it is said, between July, 1915, and July, 1916, and subsidized similar projects by cities and private organizations. That the war brought increased recognition of the importance of measures for safety, health and comfort was evident from the passage of a law in August, 1916, empowering the Home Office as a permanent policy, to make special regulations for additional "welfare" provisions in factories.

Effects of War Work

It was hardly possible to judge the full effects of war work on women and children by the summer of 1919. Among women, while individual cases of overfatigue undoubtedly existed, signs of injury to health were not generally apparent. The effects when the excitement of war work is over and the strain relaxed were still to be reckoned with, however. Higher pay, which meant warmer clothing, sometimes

better housing and especially better food, was believed to be an important factor in counteracting injury to health. It doubtless accounted for the improvement in health which was not infrequently noted in women entering munitions work from low paid trades and which is a sadly significant commentary on their former living conditions. Among boy munition makers the evidences of overwork and a decline in health were much more striking.

Particularly in the crowded munition centers, home life suffered on account of the war. Overcrowding, long hours spent in the factory and in traveling back and forth, an increase in the work of mothers with young families, the absence of husbands and fathers on military service, and the more frequent departure from home of young boys and girls for work at a distance, all contributed to the undermining of the home.

Yet even the additional responsibility placed on many women by the absence of their men folk seems to have been one of the stimulating influences which are said in three years of war to have "transformed" the personality of the average factory woman. As a class, they have grown more confident, more independent, more interested in impersonal issues. The more varied and responsible positions opened to women, the public's appreciation of their services, their many contacts with the government on account of war legislation also helped to bring about the change, which promises to be one of the most significant of the war.

Among the younger workers, on the contrary, it was feared the relaxation of discipline, unusual wages, long hours of work, the frequent closing of schools and boys' clubs and the general excitement of war time were producing a deterioration in character. "Had we set out with the deliberate intention of manufacturing juvenile delinquents, could we have done so in any more certain way?" said Mr. Cecil Leeson, secretary of the Howard Association of London. A marked increase in juvenile delinquency was noted, particularly among boys of eleven to thirteen, the ages for which school attendance laws have been relaxed and premature employment allowed.

Peace and Reconstruction

With the coming of peace and the extensive readjustments in industry which necessarily followed, new problems confronted the woman worker. Chief among these were the danger of unemployment during the transition period, the question of what should be done with the "dilutees," who had taken up work formerly reserved for skilled men, frequently under pledges that they should be displaced at the end of the war, and the burning issue of "equal pay for equal work" as between men and women. In Great Britain a remarkable amount of attention had been paid, while the war was still in progress, to preparation for the adjustment to peace as well as to the improvement of evils disclosed by war experience. In addition to much unofficial discussion and organization an official Ministry of Reconstruction had been formed, having numerous subcommittees. But the end of the war came sooner than had been expected when the government's plans were still incomplete, so that the English had, after all, to trust largely to hastily improvised schemes or to chance to carry them through the transition.

As had been anticipated, for a time a large number of women were unemployed, the reported total rising as high as 494,000 in the first week of March, 1919, but gradually falling from that point to 29,000 in November. In place of the comprehensive program outlined by one of the committees of the Ministry of Reconstruction, the government's main reliance in dealing with unemployment was a system of doles or "donations." An unemployed woman worker might draw 25s. (\$6.00)¹ weekly for thirteen weeks and then 15s. (\$3.60) weekly for a like period. Many complaints were made about the administration of the donations, particularly in the case of women workers. On one hand it was alleged that the women were refusing to accept positions offered and "taking a vacation at the taxpayers' expense." On the other hand protests were made that unemployed women

¹ Throughout this monograph English currency has been reduced to American on the approximate prewar basis of \$4.80 to the pound sterling.

were forced by the denial of donations to take places at sweated wages, especially in laundry work and domestic service. The plan of unemployment donations, originally established for six months, was renewed for an additional six months in May, 1919, and finally ended for civilians in November.

Three distinct points of view were evident in regard to the closely allied problems of dilution and "equal pay for equal work." Not a few persons held that women would and should return to their prewar occupations, in which they seldom did the same work as men. A large body of moderate opinion held that an entire return to prewar conditions was impossible. Women should be retained in all "suitable" employments, with due protection through labor laws and minimum wage fixing. Where men and women were employed in the same occupation, the equal pay standard should prevail. The more radical view was that all occupations should be open to both sexes at the same wage standard. As a corollary to this policy there was proposed the endowment of motherhood.

Even by the end of 1919 it was hardly possible to state definitely what the after war occupations and wages of the woman worker would be. But it appeared probable that she would continue in some, if not all, of her new occupations, and that her improved wage standards would be protected. After war industrial conditions in themselves naturally stimulated some return to prewar employment by reviving the luxury trades and curtailing munitions work. In certain cases, as in the woollen trade, agreements between employers and employes shut out the women. But in other important cases, as in engineering, it is probable that a compromise will be reached, permitting women to stay in at least the semi-skilled lines of work. Considerable protection has been given war time wage rates. The Minimum Wage (Trade Boards) Act has been widely extended. By two separate enactments, war time wage rates were continued until September 30, 1920, unless other agreements were reached or official awards put in force.

Government proposals for eight hour day and minimum wage legislation for both sexes and for an extension of maternity care reflect the position of the feminist advocates of occupational equality between the sexes.

Undoubtedly the war, while it had a most unfortunate effect on many boy and girl workers, at the same time roused the nation to a far greater appreciation of their value as future citizens. There was general agreement on their needs during the reconstruction period. Action must be taken to modify the effects of any postwar unemployment, while as a permanent policy more attention must be paid to their welfare during the first years of working life. Unemployment donations, the payment of which was contingent on attendance at training centers, if available, was the method adopted to meet the unemployment crisis. The Fisher Education Act represents the government's effort permanently to improve the condition of young workers. This law requires school attendance of every child under fourteen. Gainful employment outside school hours is absolutely forbidden, except a very limited amount by children between twelve and fourteen. Working boys and girls are required to go to continuation school eight hours a week until eighteen years of age when the law goes into full effect, and the time of attendance must be taken out of working hours. It is unfortunate that the children who in some ways most need the help of the act, namely those who went to work during the war, are expressly exempted from its provision. Nevertheless, by the enactment of this law, the final effect of the war on English child labor standards will apparently be to lift them to a higher plane than ever before.

Final judgment can hardly yet be passed on the effects of the war on the woman worker. Some far reaching changes are, however, already evident. While the disadvantages of war work, its long hours, overstrain and disruption of home life, seem likely to pass as conditions return to normal, the gains in the way of better working conditions, higher wages and a wider range of opportunities,

seem more likely to be permanent. Many professional doors have for the first time been opened to her. Most important of all is the fact that because of her awakened spirit and broader and more confident outlook on life, the woman worker is able consciously to hold to the improved position to which the fortunes of war have brought her.

CHAPTER II

Work of Women and Children before the World War

To understand the effect of the World War on the work of women and children, it is necessary to have as a background a picture of their place in industry before the war. As in other modern industrial countries, the employment of women and of girls and boys in their teens had long been an important factor in the work life of the English people. At the time of the latest census of the United Kingdom in 1911, nearly 6,000,000 "females ten years of age and over," or almost a third of the total number of females of that age, were returned as "gainfully occupied."¹

About 2,000,000 of the total number were engaged in some form of "domestic" pursuits; 53,000 worked for the central government, or local authorities; 415,000, the majority of whom were teachers or nurses, had some professional occupation. Food, drink and tobacco, and the provision of lodgings accounted for 546,000, and there were 120,000 female agricultural workers. The great bulk of the remainder, some 2,275,000, were found in the manufacturing industries. Here again the principal lines of work were the metal trades, with 93,000 females; paper and printing, with 148,000; textiles, with 938,000; and dress, with 898,000. Almost all of the six million were working for hire; only 80,000 were "working employers," and 313,000 were "at work for their own account."

While in England and Wales in the thirty years from 1881 to 1911 a special study of the census figures showed that the proportion of occupied women to 1,000 unoccupied women rose from 659 to 674, over a fifty year period the relative number of working women in the whole female population seemed to have fallen slightly.² Marked declines in the

¹ United Kingdom, *Abstract of Labour Statistics*, 1915, p. 307. The exact numbers were 5,851,849 "occupied" and 12,704,404 "unoccupied." In 1901, 5,309,960, and in 1881, 4,521,903 females were "gainfully occupied."

² Dorothy Haynes, "A Comparative Study of the Occupations of Men and Women," *Women's Industrial News*, Oct., 1913, pp. 398, 399.

proportion of females in "domestic" occupations and in the dress and textile trades were not entirely balanced by smaller increases in the proportions in professional and clerical work, nontextile factories, paper and printing and food and lodging. The proportion of girls between ten and fifteen at work had also fallen. The author of the above studies believes that the relative decrease was to be found among the industrial classes and that it was due to the commencement of work at a higher age and to a somewhat lessened employment of married women. Recent increases in the proportion of gainfully occupied females carried out this theory, since they were found largely in the age group between sixteen and twenty-five. Over half of the girls of these ages were at work in 1911, and 70 per cent of those from fifteen to twenty, which has been called "the most occupied age." The proportion of these young workers to older women rose considerably in the decade from 1901 to 1911, though during the same period the number of married women and widows at work increased from 917,000 to 1,091,202. For thirty years the proportion of men to women workers had remained practically stationary, being 2.3 males to one female in 1881, and 2.4 males to one female in 1911.¹

Especially in industrial occupations women had been largely confined to the least skilled and lowest paid lines of work. To a deplorable extent they had been the "industrial drudges of the community." It is, for instance, officially estimated that out of the 100,000 "home workers," whose work has become almost synonymous with "sweating," three quarters were women. An estimate by the English economist, Sidney Webb, of the wages of adult women "manual workers" in 1912² placed their average full time weekly earnings at 11s. 7d. (\$2.78). Making allowance for an annual loss of five weeks a year from sickness, unemployment and short time—a conservative estimate—average weekly

¹ Margaret G. Bondfield, "The Future of Women in Industry," *Labour Year Book*, 1916, p. 259.

² Fabian Society, "The War, Women and Unemployment," *Fabian Tract No. 178*, 1915, p. 5.

earnings throughout the year would be about 10s. 10½d. (\$2.61). Only 17 per cent of the women regularly employed were believed to receive more than 15s. (\$3.60) weekly, and those averaged only 17s. (\$4.08) for a full time week. The average full time wages of adult male manual workers were estimated by the same authority at 25s. 9d. (\$6.18) a week.

Legislative Protection for Women

Since the forties, however, much special legislative protection had been extended to women workers mainly through the factory acts. There were numerous regulations to protect their health and safety. They might not be employed in cleaning moving machinery, nor in underground mines, nor in brass casting nor in certain processes exposed to lead dust. In other lines where women were in danger of contracting lead poisoning, they were allowed to work only if found in good condition through monthly medical examination. In some unhealthy trades separate rooms for meals were required and in some dangerous ones women were obliged to cover their hair. Separate sanitary accommodations were compulsory in all factories and workshops. A provision which had proved of less value than anticipated because of the difficulties of enforcement, forbade a factory employer knowingly to give work to a woman within four weeks after the birth of her child. Wherever women were employed as "shop assistants" one seat was to be provided for every three assistants.

For factories and workshops an elaborate code limiting working hours had long been in existence. No work on Sunday or at night was allowed, and only a half day on Saturday. The maximum weekly hours permitted were fifty-five in textile factories and sixty in "nontextile factories and workshops." Daily hours were ten in the former, and in the latter ten and a half, with, in certain cases, a limited amount of overtime. The time to be allowed for meals was also strictly regulated.

The latest phase of regulation of working conditions, the fixing of minimum wages, was begun in 1909 by the Trade

Boards Act. Minimum wage rates might be fixed for trades in which wages were "exceptionally low" by boards made up of employers, employes and the general public. Though the wage fixing covered both men and women, the large proportion of women employed in the trades first regulated made the law of special importance in a consideration of women's work. The trades covered up to the outbreak of the war included certain branches of tailoring, shirt making, some forms of chain making, paper box, sugar confectionery and food preserving, and certain processes in lace finishing. The minimum rates fixed for experienced adult women in these trades varied from about 2½d. (5 cents) to 3½d. (7 cents) an hour amounting on an average to approximately 14s. a week (\$3.36) for full time work. The awards appear to have been effective in raising the wages of a considerable number of low paid women.

Child Labor

In matters of industrial employment the English recognized not only "children" under fourteen, whose employment was in great part prohibited, but also a special class of "young persons," whose employment was subject to special regulation. Boys and girls under eighteen whom the law allowed to work were in the latter group. The 1911 census returned 98,202 boys and 49,866 girls, or a total number of 148,068 children between ten and fourteen years as "gainfully employed" in Great Britain. Mr. Frederic Keeling, an authority on English child labor conditions, believed, however, that this number was an underestimate because it failed to include many children employed outside of school hours. In 1912 he set the number of working children under fourteen in the United Kingdom at 577,000, of whom 304,000 were employed outside of school hours, and the rest under special clauses of the factory and education acts.¹

The great majority of the boys and girls in Great Britain went to work before they were eighteen years old. There

¹ Frederic Keeling, *Child Labour in the United Kingdom*, 1914, p. xxviii.

were 1,246,069 male "young persons" and 902,483 female "young persons" gainfully employed in Great Britain in 1911.¹ In England and Wales in that same year 309,000 boys and 241,000 girls of seventeen were at work, and only 20,600 boys and 87,400 girls of that age were "unoccupied."

The 1911 census figures covering the principal lines of work in which girls and boys under eighteen are employed had, in November, 1917, been published only for England and Wales. For boys these occupations were the building trades, the metal trades, textiles, agriculture, mining, outdoor "domestic service," messenger and porter work—which is in most cases a "blind alley" occupation—and commercial employment, whereas for girls they were textiles, clothing, domestic work and commercial employment. The girls, it may be noted, were found mainly in the same kinds of work as were adult women.

While, as has been previously mentioned, there was a relative increase in the number of young working girls between fifteen and twenty, the number of working children under fourteen was falling off. There were 97,141 boys and 49,276 girls under fourteen, a total of 146,417, employed in England and Wales in 1911. In 1901 working boys under fourteen numbered 138,000 and working girls 70,000, a total of 208,000. In Scotland there were but 1,600 young children of these ages at work in 1911, and 17,600 in 1901.

Most children and "young persons" were, of course, receiving very low wages. Sidney Webb estimated the average earnings of girl manual workers under eighteen to be 7s. 6d. weekly (\$1.80) and those of boys to be 10s. (\$2.40).

Laws Affecting Children's Employment

The chief forces in bringing about this diminution of child labor were, naturally, the laws forbidding child labor and requiring compulsory schooling. Children were required to attend school until they were fourteen unless they were thirteen and could secure a certificate of "proficiency" or

¹ These girls are also included in the number of "females gainfully occupied," previously discussed. *Vide* p. 14

of regular attendance. They might not work in factories until they had completed their school attendance, except that "half timers," girls and boys of twelve, might work not more than thirty-three hours a week and were compelled to go to school half the time. Most of the "half timers" were found in the Lancashire cotton mills.

Children under eleven might not sell articles on the street, boys under fourteen might not work in coal mines, and the local authorities might forbid all work by children under fourteen, though unfortunately the power had been but slightly exercised.

The health and safety regulations affecting "young persons" under eighteen were similar to those for women, but somewhat more stringent. The lead processes which were forbidden women were also forbidden girls and boys under eighteen, together with a few other very unhealthy trades. In others where women might be employed, boys and girls under sixteen were forbidden to work. Children under fourteen might not be employed "in a manner likely to be dangerous to their health or education."

In factories and workshops the same regulation of daily and weekly hours, night and Sunday work, applied both to adult women and to "young persons." In addition the hours of boys under sixteen employed in mines were limited, and a maximum of seventy-four hours a week was fixed for shop assistants under eighteen.

The minimum rates set by the trade boards for boys and girls under eighteen generally rose year by year according to age from about 4s. weekly at fourteen (96 cents) to 10s. (\$2.40) or 12s. (\$2.88) at seventeen. Girls with the necessary experience in the trade received the full minimum rate for women at eighteen years of age, but the boys, who sometimes began at a higher rate than the girls, did not reach the full men's rate till they were twenty-one or more.

Almost all these working conditions—the principal kinds of work women and children were doing, the rate of increase in their numbers, their wages and the legal regulations protecting them—were changed during three years of the world war.

CHAPTER III

First Months of the World War—Labor's Attitude toward the War—Unemployment among Women Workers

August 4, 1914, was a momentous day for the working women and children of England. On that date the nation entered the great conflict which was not only to throw their men folk into military service, but to affect their own lives directly. It was to alter their work and wages and to come near to overthrowing the protective standards built up by years of effort. What was the attitude of the women and of organized labor in general toward the war and the industrial revolution which it brought in its train?

Shortly after the opening of hostilities the majority of the workers swung into line behind the government in support of the war, despite the fact that the organized British labor movement had earlier subscribed to a resolution of the international socialist congress that labor's duty after the outbreak of any war was "to intervene to bring it promptly to a close."

Indignation at the invasion of Belgium was apparently one of the determining factors in the change of attitude. The Labour party did not oppose the government war measures. It joined in the parliamentary recruiting campaign, and in the "political truce," by which it was agreed that any vacancies occurring in the House of Commons should be filled by the party previously in possession without a contest. On August 24, 1914, the joint board of three of the four important national labor bodies, namely the Trades Union Congress, the General Federation of Trade Unions and the Labour Party, declared an "industrial truce," moving for the termination of all existing disputes, and for an effort to settle all questions arising during the war by peaceful methods, before resorting to strikes and lockouts. The principal women's labor organizations fell in with what may be called the official labor attitude toward the war, and the

Independent Labour party stood almost alone in continuing to advocate an early peace.

In July, 1914, just before the war, British business had been in a reasonably prosperous condition. There was somewhat of a decline from the boom of 1913, and a considerable depression in the cotton industry, but on the whole the state of trade was good.

The first effect on industry of the outbreak of war in August was an abrupt and considerable curtailment of production. Orders both in home and foreign trade were withheld or canceled, large numbers of factories went on short time, and in a number of cases employes were provisionally given notice of discharge.¹

The Unemployment Crisis

That the crisis of unemployment would be but a passing phase, soon followed by unprecedented industrial activity, seems not to have been anticipated. "If the war is prolonged, it will tax all the powers of our administrators to avert the most widespread distress," said the Fabian Society.² A "Central Committee for the Prevention and Relief of Distress," headed by the president of the local government board was organized as early as August 4; local authorities were asked to form similar local representative committees, and the Prince of Wales sent out an appeal for a "National Relief Fund." Plans were made for starting special public work, additional government subsidies to trade unions paying unemployment benefits were granted, and the War Office broke precedent and permitted the subletting of government contracts as a relief measure in districts where there was much unemployment.

In the industrial depression women were affected far more severely than men and for a considerably longer time. The trades which were hardest hit were for the most part those in which large numbers of women were employed.

¹ Great Britain Board of Trade, *Report on the State of Employment in October, 1914*, p. 5.

² Fabian Society, "The War and the Workers," *Fabian Tract No. 176*, 1914, p. 22.

Those trades which for want of a better name are sometimes called "luxury trades"—dressmaking, millinery, blouse making, women's fancy and children's boot and shoe making, the silk and linen trades, cigar and cigarette making, the umbrella trade, confectionery and preserve making, cycle and carriage making, the jewelry trade, furniture making and French polishing, the china and glass trades, book and stationery making, as well as printing—these were the trades which at the beginning of the war suffered a very severe slump. In some trades a shortage of raw material or the loss of enemy markets only added to the general dislocation Thus the shortage of sugar caused very considerable unemployment in jam preserving and confectionery. The chemical trade was affected by the complete cessation of certain commodities from Germany. The practical closing of the North Sea to fishers absolutely brought to a close the occupation of those thousands of women on the English coast who follow the herring round. The closing of the Baltic cut off the supplies of flax from Russia upon which our linen trade largely depends. . . . The cotton trade was especially hit, before the war a period of decline had set in, and Lancashire suffered in addition from all the disadvantages incidental to an export trade in time of naval warfare. Casual houseworkers such as charwomen and office cleaners and even skilled domestic servants, such as cooks, found themselves out of employment owing to the economies which the public was making. The unemployment of good cooks, however, did not last many weeks.¹

Nearly half the total number of women in industry (44.4 per cent or 1,100,000) were unemployed or on short time in September, 1914, while among men workers the corresponding figure was only 27.4 per cent. The provision of public work helped men rather than women, and the rush of enlistments was another important factor which helped relieve the situation for working men. Among the women, on the contrary, many relatives of men who had gone to the

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, 1915, pp. 70, 71.

front were obliged to apply for work for a time, since separation allowances were not immediately available.

In October, 1914, when enlistments were taken into account, the net decrease in the number of male industrial workers was only 6,500, but that of females was 155,000. By December, when 77,000 fewer women were employed than in July, and girls in dressmaking, machine made lace, silk and felt hat making, potteries, printing and fish curing had not yet found steady work,¹ there was a net increase in the employment of men and boys, and a shortage of skilled men. Even in February, 1915, 37,500 women were reported unemployed,² and in the latter part of March and the first half of April there were twice as many women applicants for work at the employment exchanges as there were openings available. However, the tide turned in the latter month, and the total number of women workers increased 44,000 over the number employed in July, 1914, though owing to imperfect adjustment a number of women were still unemployed in the middle of 1915, nearly a year after the outbreak of the war.³

Organization for Aiding Unemployed Women

During this period the chief agency helping unemployed girls and women was the "Central Committee on Women's Employment." The committee mainly owed its origin to the War Emergency Workers' National Committee, which was formed as early as August 5, 1914, to protect the interests of the workers during the war, at a hastily called conference of nearly all the important national socialist and labor organizations. In the first days of the war an appeal to women was sent out in the name of the Queen asking them to make garments and "comforts" for the troops. The workers' national committee protested against such use of the voluntary labor of the well-to-do at the very time when

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 34.

² *Ibid* Appendix A, p. 231.

³ Great Britain, *Report of the War Cabinet Committee on Women in Industry*, pp. 79-80.

thousands of working women in the sewing and allied trades were in need of work.

As a result of such protests an announcement appeared in the newspapers of August 17 to the effect that details of the Queen's plan for raising money to provide schemes of work for unemployed women would soon be announced. It was stated that "it is the wish of Her Majesty that these schemes should be devised in consultation with industrial experts and representatives of working class women," and that the aims of the Queen's needlework guild had been "misunderstood." "Voluntary aid was meant to supplement and not to supplant paid labor." A few days later the Queen asked amateur sewers not to make any of a list of garments which the military authorities would ordinarily buy from business firms.

On August 20, the "Central Committee on Women's Employment" was appointed. Mary Macarthur, secretary of the National Federation of Women Workers, was honorary secretary, and five of the fourteen members were representatives of working women approved by the workers' national committee. This central women's committee was given control of the Queen's Work for Women Fund.

Though the committee met with many delays before it could start its undertakings, and though it was able to provide for only a small fraction of the women in need, its general principles and methods might well be taken as a standard for action in any similar emergency.

The first principle on which the committee worked was that "it is better that workers should be self-maintaining than dependent upon relief, even when that relief is given in the form of work." To increase the volume of employment the committee set up a "contract department" which aimed to enlarge the number of firms having government contracts. Three different methods were used in doing this. One especially ingenious device was that of inducing the War Office to simplify certain details of the army uniform, so that it could be made up by firms not used to the work. "Thereafter full employment in the clothing trade coincided

with a greatly improved supply of army clothing."¹ Firms in need of orders, who could make shirts, khaki, blankets and hosiery, were brought to the attention of the War Office. Finally, by taking large contracts from the government and dividing them the committee supplied work to a number of small dressmaking and needlework firms, which were too small to secure the contracts direct. Two million pairs of army socks, 10,000 shirts a week cut out in the committee's own work rooms, and 105,000 flannel body belts for the troops were given out in this way. It is important to note that the work was "only undertaken when the ordinary trade was fully employed." As a matter of fact, at the same time that thousands of women and girls were out of work, others were working overtime and the government was unable to secure sufficient clothing for the troops. Except that the committee sometimes made advances of working capital, to be returned when the contract was finished, the work was self-supporting. Ordinary trade prices and, after the first few weeks, the usual methods of wage payment, prevailed.

The other main branch of the committee's work was the provision of relief work rooms under its own supervision in London, and elsewhere under women's subcommittees of the local representative committees formed by the Board of Trade. The subcommittees were required to include representatives of working women's organizations among their members. The committee reports that its decision to have the relief work carried on under the auspices of such committees "caused some disappointment to the promoters of certain private charities who hoped to procure grants."²

The work rooms were not allowed to compete with ordinary industry, for which reason their products were not supposed either to be sold or to be given to persons who could afford to buy them. It was stated, however, that this rule was difficult to enforce because many of the provincial work rooms were anxious to make articles for the troops.

¹ Great Britain, *Report of the Central Committee on Women's Employment*, 1915, p. 5.

² *Ibid.*, p. 9.

The work was supposed to be of a nature to train the workers and improve their efficiency, and in this the committee's aims seem to have been generally realized. The making of cheap but tasteful clothing and other domestic training was usually provided. In many places the women were taught to cook wholesome low cost dinners for themselves. In one work room a rough factory hand who had hardly handled a needle before became so enthusiastic over her handiwork that she remarked, "It's nice to be learned."

In London a few "sick room helps" were also trained, some clerical workers were given scholarships to learn foreign languages, and a small number of factory girls were sent into the country to become market gardeners. In selecting applicants girls under sixteen and nonworking wives of unemployed men were not taken, and the younger, more intelligent and more teachable women were given preference. Workers were obliged to register at the employment exchanges¹ and to accept suitable employment if found.

The wages paid by the work rooms aroused not a little controversy. The committee fixed 3d. as the hourly wage rate, forty hours as the weekly working time, making maximum weekly earnings 10s. (\$2.40). This wage scale was hotly denounced by certain labor representatives as "sweating." The committee justified it on the ground that the hourly rate was approximately that set by the trade boards, and that the weekly wage must be kept sufficiently low so that women would not be attracted to the work rooms from ordinary employment. After careful consideration, the scale was endorsed unanimously by the War Emergency Workers' National Committee.² In March, 1915, on account of rising prices, a working week of forty-six hours was permitted, increasing weekly earnings to 11s. 6d. (\$2.76). But by this time the state of trade had greatly improved and it had already been possible to give up some of the work rooms.

¹ The former "labour exchanges," managed by the Board of Trade, became "employment exchanges" when the Ministry of Labour was created in December, 1916, and they were transferred to its jurisdiction.

² Fabian Society, "The War, Women, and Unemployment," *Fabian Tract No. 178*, 1916, p. 19.

The others were soon closed and the committee gave its attention to investigating new fields for the employment of women. At the end of 1916 it was also running an employment bureau and acting as a clearing house for related organizations. About 9,000 women had passed through its work rooms up to January, 1915, at which time about 1,000 women were employed by the central committee in London, and about 4,000 by the local subcommittees.¹

¹ Comprehensive reports on the state of employment in September and October, 1914, and in February, 1915, have been issued by the Board of Trade [Cds. 7703, 7755, and 7850]. The "Central Committee on Women's Employment" has issued an interim report [Cd. 7748]. Miss Edith Abbott gives an excellent review of the extent of unemployment and the work of the Central Committee in the *Journal of Political Economy* for July, 1917. ("The War and Women's Work in England," pp. 641-678.)

CHAPTER IV

Extension of Employment of Women

The rapid growth in the number of women workers and their entrance into hundreds of occupations formerly carried on by men alone are two of the most striking industrial phenomena of the world war. The decrease in women's employment which marked the beginning of the war disappeared month by month until the level of July, 1914, was passed in April, 1915. In the next month the *Labour Gazette* noted that the shortage of male labor was now extending to female and boy labor in many lines. Up to this time recruiting had been comparatively slow. Now came Lord Kitchener's appeal for "men and still more men," and as the army grew the women had to fill the depleted ranks of industry.

By August, 1915, the British Association for the Advancement of Science set the increase of employed women over July, 1914, at over 150,000 in industrial lines alone, besides considerable gains in certain nonindustrial occupations.¹ In November of that year the number of women registering at the employment exchanges for the first time exceeded that of men. In April, 1916, by which time the army had been much enlarged and the first conscription act was in effect, the increase had reached 583,000, according to official estimate, and the number of women workers was growing at least five times as fast as before the war. A year later the net gain in the number of women gainfully occupied was 963,000, and in July, 1918, 1,345,000 more women were at work than in July, 1914.² In short, in four years of war more than a million and a third additional women entered work outside their homes.

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, pp. 75 and 137.

² Great Britain, *Report of the War Cabinet Committee on Women in Industry*, April, 1919, pp. 80-81. [Cd. 135.]

The increase in the number of working women and girls was greatest, perhaps, in the year from April, 1915, to April, 1916, during which period there was an increase of 657,000 in the occupations covered by the Board of Trades reports.¹ During the last year for which figures are available, July, 1917, to July, 1918, the increase was but 277,000. This check in the rate of increase was due probably to a decrease in the demand for the kinds of munitions on which women were most largely employed, an increase in the number of returned soldiers and apparently the depletion of the supply of women readily available for employment.

Among the various occupational groups factory work showed the largest increase, namely, 792,000 women, during the four years ending July, 1918, and agriculture the smallest, 38,000. Commerce was second to industry, with a gain of 429,000, and national and local government third with an increase of 198,000. The number of women workers decreased only in women's traditional occupation of domestic service, where a decline of 400,000, or nearly 20 per cent, was registered in the four year period.

EXTENSION OF THE EMPLOYMENT OF WOMEN DURING FOUR YEARS OF WAR²

Number of Woman Working	July, 1914	July, 1918	Increase or Decrease
Employers or on own account.....	430,000	470,000	+ 40,000
Industry	2,178,000	2,970,000	+792,000
Domestic Service	1,658,000	1,258,000	-400,000
Commerce, etc.	505,500	934,500	+429,000
National and Local Government, including			
Education	262,200	460,200	+198,000
Agriculture	190,000	228,000	+ 38,000
Hotels, Theaters, etc.	181,000	220,000	+ 39,000
Transport	18,200	117,200	+ 99,000
Other (including professional) Employ- ment and Home Workers.....	542,500	652,500	+110,000
Total.....	5,966,000	7,311,000	1,345,000

Turning aside from the increases in the total number of women workers to an analysis of changes in the various oc-

¹ *Vide* Appendix D, p. 236.

² Report of the War Cabinet Committee on Women in Industry, April, 1919, p. 80.

cupations, a picture is obtained not only of what the army of new workers did, but also of many of the alterations wrought by war on the fabric of British industry.

First Year of War

Within a few weeks after the beginning of the war the government "came into the market as chief buyer," with large rush orders for the equipment of troops. This involved an "enormously multiplied demand for women's services" in certain lines, some time before the period of unemployment was over. Increases in the number of women in the leather, engineering and hosiery industries were noted by October, 1914. Before the end of 1914 there was said to be an increase of 100,000 women in the woolen and worsted industry (for khaki, flannel and blankets); in hosiery; in the clothing trade (for military tailoring, fur coat making, caps and shirts); in the boot and shoe trade; and in the making of ammunition, rations and jam, kit bags and haversacks, surgical dressings and bandages and tin boxes. Yet owing to lack of the necessary skill or because they could not be moved to the locality where their services were in demand, thousands of "capable though untrained young women lacked employment when other factories were overwhelmed with their contracts and girls and women strained nearly to the breaking point."² "The relative immobility of labor was never more clearly shown," says Miss B. L. Hutchins.³

An interesting account of the introduction of women into munitions work speaks of the rush of women to register for it in May, 1915, after the battle of Neuve Chapelle, when the public first became aware of the shortage of munitions.⁴ But positions were then "exceedingly difficult to obtain" and the use of women became general only in September or later.

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 71.

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 33.

³ B. L. Hutchins, *Women in Modern Industry*, 1915, p. 246.

⁴ Rosamond Smith, "Women and Munition Work," *Women's Industrial News*, April, 1916, p. 14.

An official report states that the employment of women on munitions work was considered "tentative and experimental" as late as November and December, 1915.¹ The success of a group of educated women placed as supervisors in an inspection factory, who were trained at Woolwich Arsenal in August, was said to have been the determining factor in leading to the introduction of female labor on a large scale at Woolwich and other government establishments.

During perhaps the first six or eight months of war, however, the additional women factory workers seldom took the places of men, but entered the same occupations in which women had long been employed. The "new demand was to a large extent for that class of goods in the production of which female labour normally predominates."² Women had for many years operated power machines in the clothing trades and had been employed in the making of cartridges and tin boxes, in certain processes in woolen mills, in boot and shoe factories and in the food trades. The needs of the army so far merely provided more opportunities along the usual lines of women's work.

It was in the spring and early summer of 1915 that instances of the substitution of women for men first began to be noted in industrial employments. The *Labour Gazette* first mentioned the general subject in June, and in July stated that the movement was "growing." In the boot and shoe trade in Northamptonshire efforts were being made in May to put women on "purely automatic machines hitherto worked by men." About this time a violent controversy broke out in the cotton trade regarding the introduction of women as "piecers," two of whom helped each male spinner. Boys had been used for this purpose, and the union rules forbade the employment of women. Union officials were strong in opposition, saying that the work was unsuitable for women, and that they would undercut the

¹ Great Britain. *Report of the War Cabinet Committee on Women in Industry*, April, 1919, p. 111.

² British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 72.

wage rates. An agreement permitting the use of the women was finally made with the union, but even before it was ratified women "piecers" had become increasingly common.

The frequent use of women on work formerly done by men in the munitions branch of the "engineering" (machinists') trade also dates from about this time. On August 20, 1915, *The Engineer*, a British trade paper, stated that "during the past few months a great and far reaching change had been effected. . . . In a certain factory (making projectiles up to 4.5 inch gun size) a new department was started some time ago, the working people being women, with a few expert men as overseers and teachers. . . . By no means all of the work has been of the repetition type, demanding little or no manipulative ability, but much of it . . . taxed the intelligence of the operatives to a high degree. Yet the work turned out has reached a high pitch of excellence. . . . It may safely be said that women can satisfactorily handle much heavier pieces of metal than had previously been dreamt of."

Women are said to have been successful in "arduous" processes, such as forging, previously performed by men, and in managing machine tools not even semi-automatic. "It can be stated with absolute truth that with the possible exception of the heaviest tools—and their inability to work even these has yet to be established—women have shown themselves perfectly capable of performing operations which hitherto have been exclusively carried out by men."

But for industry as a whole the judgment of the British Association for the Advancement of Science on the extent of substitution during the first year of war is probably accurate. "Broadly speaking," it was said, "the movement [of women into trades and occupations hitherto reserved wholly or partially to men] has only just begun to assume any appreciable magnitude. . . . In few industries has the position yet shaped itself."¹ But in a number of trades, noteworthy among which were leather, engineering, wool,

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 70.

cotton, pottery and printing, women, while not yet undertaking the most highly skilled work, were "undoubtedly slowly undertaking processes that were previously thought just above the line of their strength and skill."¹

Very soon after the outbreak of war there began to be an increase in the number of women in certain nonindustrial occupations, most important of which were clerical work, retail trade, and the railway service. Unfortunately no estimate is available of the actual numbers of women so employed in the first year of the war, but the increase must have been considerable. Banks and insurance offices for the first time hired women and girls in any great numbers, mostly for the more routine parts of the work. The civil service took on a good many women in the lower grades of its work, and already complaints were heard of the prejudice which confined trained women to routine work while the "upper division" struggled on understaffed. In the postoffice more women clerks and some postwomen were noted. There was a considerable increase in the number of women in retail trade in various capacities, including shop assistants in dry goods and provision stores, packers and delivery "girls." In the railway service women were appearing as car cleaners, ticket collectors on the station platforms and in the railway offices. Some cities had hired women as street cleaners and tram car conductors. The exodus of foreign waiters left openings for more waitresses.

In these lines from the first the women took men's places. And, as the public came into daily contact with women clerks in banks and business offices, postal employes, employes in shops and on delivery vans, tram conductors and ticket collectors, there probably arose an exaggerated idea of the extent to which women did "men's work" during the first year of war.

The number of women in agriculture, in which the *Labour Gazette* first noted a shortage of skilled labor in the early months of 1915, is reported to have risen slightly in the spring and summer of 1915. The increases were reported

¹ British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 78.

in nearly all the principal branches of the season's work, first in potato planting, then in turnip hoeing, next in haying and fruit picking and finally in the harvest. In almost every case the additional women were employed on work formerly done by men. But, according to a careful study covering this period:

Most of the press paragraphs referring to the replacement of men by women upon farms have been calculated to give an erroneous impression to the unknowing public. The demand for female labor in agriculture during 1915 was not very great and a large number of girls who offered to take up such work failed to find employment.¹

Moreover, statistics show that, owing to the keen demand from higher paid and more attractive lines of work, the number of women permanently employed on the land in Great Britain actually decreased from 80,000 in July, 1914, to 62,200 in July, 1915.²

Second Year of War

The next convenient date at which to note the changes in the number of women employed and in their occupations is April, 1916, when nearly two years had passed under war conditions. A second investigation by the British Association for the Advancement of Science covers conditions at that period, and the first of the *Labour Gazette's* quarterly summaries of "the extension of the employment of women" is of that date.

The total war increase in numbers in industrial occupations was put at 13.2 per cent of the estimated number employed in July, 1914, or 287,500, by April, 1916. In the metal trades, chemicals and woodworking, the increases were by far the largest, being 88 per cent or 126,900, 84 per cent or 33,600, and 33 per cent or 13,200 respectively. These

¹ *Women's Industrial News*, July, 1916, p. 28.

² Great Britain, Board of Trade, *Report on the Increased Employment of Women during the War, with Statistics up to April, 1918*, pp. 13-14.

figures show the rush of women into the engineering branch of munitions work, which began to be heavy in the fall of 1915, and into the manufacture of explosives. Both patriotism and the economic incentive of high wages helped to secure women to meet the rapid expansion in these trades. The increase in woodworking trades likewise had a direct connection with war orders, as it involved the work of women on aeroplanes and in making ammunition boxes. Other marked increases, though not proportionally as large, were found in the textile and food trades.

During the autumn of 1915 and the early months of 1916 the replacement of men by women in industry progressed much more rapidly than in the first year of war. During nearly every month of this period the *Labour Gazette* noted the increasing shortage of male help as men were called into the army, the growing substitution of women and the need for still further replacement. By the end of 1915, the "Principal Lady Inspector of Factories" stated in her report for that year that though the replacement of men of military age was still "probably very much less than is generally supposed" the employment of women on "men's work" in the expanding munitions industry and in many staple trades had so "spread that an entirely new industrial position and outlook has opened for women."

In April, 1916, it was estimated by the British Association for the Advancement of Science that about one woman industrial worker out of every seven was replacing a man, the total number of substitutes in industry at this time being approximately 226,000. By far the largest number, 117,400, were found in the "metal trades" (munitions), and textiles, clothing, miscellaneous trades, food, paper and printing, and woodworking followed in the order named. Estimates by the Board of Trade were somewhat more conservative. A month or two later the *Labour Gazette* could state that there were few industries or occupations "in which some substitution of females for males had not taken place."

¹Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 13. *Vide* Appendix B, p. 232.

By the spring and summer of 1916, also, the effect of extending the employment of women had begun to be felt by those lines which, before the war, had been considered pre-eminently "woman's work." The British Association for the Advancement of Science reported in April a decline of 100,000 in the number of domestic servants and a slight decrease in the number of women in the paper and printing trade. In July the *Labour Gazette* found decreases also in dressmaking, confectionery and the linen, lace and silk trades. By October, 1916, 40 per cent of the firms in the textile trades, 21 per cent in clothing and 19 per cent in paper and printing were unable to fill their demands for female help, as contrasted with 5 per cent in the metal trades, 3 per cent in chemicals and 8 per cent in wood-working. "It is clear therefore . . ." states the *Gazette*, "that the process of transference from these trades (which are ordinarily women's occupations) to munition work or other better paid occupations still continues."

The largest increases in the employment of women, however, both absolutely and proportionally, were to be found in April, 1916, in the nonindustrial group. The total increase in this group over prewar numbers was 310,000. In "commercial" work alone the number of women had risen by 181,000. The gain in "banking and finance," i. e., women clerks in banks and financial offices, was 242 per cent or 23,000, and in "transport," that is to say railway work was 16,000, or 168 per cent.²

In agriculture during 1916 the increase in employment of women was much more rapid, both among regular workers and among such temporary workers as fruit pickers and harvest hands. An increase of 18,700 or 23 per cent in the number of regular women workers in Great Britain alone was reported in July. In the autumn the numbers fell off, however, on account of the physical strength required for the ploughing and other work carried on at that season.

¹ *Labour Gazette*, January, 1917, p. 8.

² *Vide* Appendix C, p. 234.

Third Year of War

The next group of figures carries forward the story of the increase in women workers more than a year further, to July, 1917. This third year of war was a period of striking developments, both in growth in the number of women workers and in the extent to which they filled men's jobs.

Best known of these changes to American readers is the constant expansion in the number of women munition makers. The number of government munition factories had risen from four at the beginning of the war to 103 in January, 1917, and the number of women employed in them and in docks and arsenals increased by 202,000, or 9,596 per cent, between July, 1914, and July, 1917. At Woolwich Arsenal there were 125 women in 1914 and 25,000 in 1917. The number of women in 3,900 of the 4,200 "controlled" establishments doing munitions work was reported to be 369,000 in February, 1917.¹ In July, 1917, the increase in the number of women in the trades which covered most of the munition work outside national factories, namely, metals, chemicals and woodwork, was 358,000, 52,000 and 26,000, respectively. In June, 1917, Dr. Christopher Addison, then Minister of Munitions, told the House of Commons that from 60 to 80 per cent of all the machine work on "shells, fuses and trench warfare supplies" was performed by women. One shrapnel bullet factory was said to be run entirely by women.

Part of the total gain of 518,000 in the number of women in industrial occupations under private ownership in July, 1917, was likewise found outside munitions work in a great variety of staple trades less directly connected with war orders, many of which were far removed from the scope of women's work previous to the war. For instance, the number of women in grain milling rose from 2,000 to 6,000, in sugar refining from 1,000 to 2,000 and in brewing

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

from 8,000 to 18,000 by July, 1916.¹ Women became bakers and butchers and even stokers.² The employment of women increased in the building trades, in surface work in mining, in quarrying, brick making and cement work, in furniture manufacture and in the making of glass, china and earthenware. Women were reported to be building good-sized electric motors, working in shipbuilding yards, testing dynamos, working electric overhead traveling cranes, gauging tools to a thousandth of an inch and less and performing the most highly skilled work on optical instruments.³ The British mission from the Ministry of Munitions described a former kitchen maid who was running a 900-horsepower steam engine without assistance.

A committee of industrial women's organizations stated, in the winter of 1916-17 that, except for underground mining, some processes in dock labor and steel smelting, and iron founding, "the introduction of women in varying numbers is practically universal." And even in steel works women were sometimes employed in breaking limestone and loading bricks, though not on the actual smelting of the metal, while in iron foundries negotiations were going on to see where women could be used.

Meanwhile, the decrease in women workers in what, before the war, were distinctively "women's trades," became more marked. For instance, in April, 1917, the number of women was falling off in textiles and the food trades, though these were still above prewar levels, in dressmaking and domestic service, where the decline was put at 300,000, and in laundry work, for which exact figures were not obtainable.

The following table brings out the changes in the employment of women in several of the more important industrial occupations between July, 1914, and January and April, 1917:

¹ *Labour Gazette*, July, 1916, p. 357.

² Great Britain War Office, *Women's War Work*, pp. 49, 56, 57.

³ Great Britain Ministry of Munitions, *Dilution Bulletin*, April, 1917, pp. 82 and 95.

INCREASE OR DECREASE IN THE NUMBER OF WOMEN EMPLOYED SINCE JULY, 1914¹

	January, 1917	April, 1917
Metals	267,000	308,000
Chemicals	43,000	51,000
Textiles	23,000	22,000
Clothing	—34,000	—37,000
Foods	26,000	18,000
Paper and Print	—6,000	—7,000
Woods	19,000	24,000
Total.....	399,000	453,000

It had become so difficult for the London high class dressmaking and millinery shops to secure employes that in the fall of 1916 some of the employers met with representatives of the London County Council and the employment exchanges and planned considerable improvements in working conditions. The changes included a reduction of the seasonality of the trade and a shortening of the working hours. But in July, 1917, their supply of labor was still "insufficient."²

In nonindustrial occupations also during the period from April, 1916, to July, 1917, there was a continued increase in the number of women employed and the kinds of work they were doing. Next to "government establishments" the largest percentage of increase (though the absolute numbers are comparatively small) were found in some of these groups. In "banking and finance" the gain over July, 1914, was 570 per cent, in "transport" 422 per cent and in civil service 150 per cent. The gain in numbers in the whole group, exclusive of agriculture, was 639,000, of which 324,000 were found in "commercial occupations."³

Along with the growth in numbers the kinds of work done by women in these lines continued to extend. On the railroads, to the women clerks, car cleaners and ticket collectors of the first months of war were added shop laborers, engine cleaners and porters. In several Scottish and a few English and Welsh cities, women became tram drivers as

¹ *Labour Gazette*, August, 1917, p. 274.

² *Ibid.*, p. 282.

³ *Vide* Appendix D, p. 236.

well as conductors. Cities employed not only women street cleaners and a larger number of women clerks and teachers but women in various capacities in power stations, sewage farms, gas works and parks, and as scavengers. A few official "policewomen" were appointed, and there were numerous women "patrols" or voluntary police. There were women lamp lighters and women window cleaners, and the errand girl had practically replaced the errand boy.

While in July, 1917, according to the *Labour Gazette*, the number of women employed permanently on the land in Great Britain had increased by 26,000 or 32 per cent since July, 1914, the number of casual workers had increased 39,000 or 77 per cent during the same period. The total number of women employed in farm work in July, 1917, may therefore be estimated as 192,000, in addition to women relatives of farmers, who are seldom counted in the returns.

As indicated by the variety of occupations, both industrial and nonindustrial, in which their employment increased, the substitution of women for men went forward rapidly during the third year of war. The total number of "females substituted for male workers" amounted in July, 1917, to 1,354,000, exclusive of casual farm laborers, or to 1,392,000 if such laborers be included. In "government establishments" the number of women on men's work was 9,120 times as great as the whole number of women employed in July, 1914; in "banking and finance" the number was 555 times as great; in "transport," 437 times, and in "civil service" 152 times as great. About one working woman out of every three was replacing a man in July, 1917, in the occupations covered by the tables of the *Labour Gazette*.

The report of the "Chief Inspector of Factories and Workshops" for 1916 gives an interesting description of the progress of substitution and of the work of women in heavy occupations formerly carried on exclusively by men. The Principal Lady Inspector, Miss Anderson, says, in part:

It appears that the one absolute limit to the replacement of men by women lies in those heavy occupations and processes where adaptation of plant or appliances can not be effected so as to bring them within the compass even of selected women, of physical capacity above the normal. Very suprising, however, is the outcome of careful selection, even in fairly heavy work, in rubber manufacture, paper mills, oil cake and seed crushing mills, shale oil works, shipyards, iron and tube works, chemical works, gas works and stacking of coal, tan yards, coarse ware and brick making, flour milling and other trades. "If they stick this, they will stick anything," a manager is reported as saying of the grit and pluck of the women in a gas works in the recent severe weather.¹

She adds, however, what may occur to many students of women's work, that "it is permissible to wonder whether some of the surprise and admiration freely expressed in many quarters over new proofs of women's physical capacity and endurance is not in part attributable to lack of knowledge or appreciation of the very heavy and strenuous nature of much of normal prewar work for women, domestic and industrial."

Nevertheless, despite these increases, the amount of substitution varied widely between different trades and even between different firms in the same trade, and opportunities for replacement still existed. Often women had been more widely introduced into occupations like railway trucking, for which they did not appear well fitted, than into such work as electroplating, which seemed in every way suitable.

Women's lack of trade training, their inferior strength, the special restrictions of the factory acts, moral objections to having men and women in the same workshop, and the need of increasing sanitary accommodations and providing women supervisors had been from the first alleged as objections to putting women in men's places.² But the strong-

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 5.

² British Association for the Advancement of Science, *Labour, Finance, and the War*, 1916, pp. 83, 84.

est obstacles were apparently trade union opposition, frequently expressed in restrictions in trade agreements, and the prejudice of employers. "The progress of substitution probably depends in many cases on the pressure exercised by military tribunals," said the "Principal Lady Inspector of Factories," early in 1917. "Employers will not experiment with women as long as they can get men, though once they do so they are pleased with the result."

Fourth Year of the War

In the words of the Chief Woman Factory Inspector, 1917-1918, the fourth year of the war, was as far as woman's work was concerned "one mainly of settling down into the new fields of work which were so rapidly marked out in the three previous years." Yet she enumerates several lines of work employing women for the first time during this year, among which were ship and marine engineering, blast furnaces and forge works, copper and spelter works, concrete and other construction work for factories and aerodromes, electric power stations and retorts of gas works. The entrance of women as unskilled laborers in iron and steel plants and chemical works was proceeding steadily in November, 1918.

- Another interesting indication of the extent and variety of women's work in the latter months of the war is a list of placements made by an employment exchange. The list includes learners in sheet metal working, engine cleaners for a railway company; machinists in a torpedo factory; drivers for a tramway company; gas meter inspectors; crane drivers; insurance agents; sawmill laborers; cemetery laborers; railway porters; painters of motor car bodies; machinists for engineering firms; plumbers in a shipyard; bill posters; electric welders; foundry workers; armature winders; postwomen; lorry drivers; wood cutting machinists for shipbuilding; moulders at a grinding mill; chauffeurs; lift attendants; tinsmiths; solderers in gas meter

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 6.

works; telephone repairers; hay balers; laboratory assistants for wholesale chemists; tailors' pressers; cinema operators; bank clerks; glass blowers; pipe plasterers; bake house assistants; cork cutters; gardeners; core makers in an iron foundry, and mechanics of many kinds.¹

A Home Office report on the "Substitution of Women in Nonmunition Factories" adds to the above classifications employment in scientific work and in management and supervision, which a number of women entered during the latter months of the war, though a lack of suitable candidates retarded the movement. Educated women found places in factory laboratories where, also, intelligent working women took up the more routine processes. Most of the women engaged in managerial work were found in the pre-war "women's industries" like laundries and clothing factories, while the opening of new trades provided opportunities for many forewomen.

In July, 1914, the total number of women at work for pay was officially estimated as 5,966,000. Four years later this total had risen to 7,311,000 which, as has been noted, was a net increase of over a million and a third. An increase was found in all the major industrial groups except domestic service, in which the numbers decreased by 400,000, or about 20 per cent, during the war period. In private industrial establishments the number of women workers rose in four years from 2,176,000 to 2,745,000, an increase of 569,000, or 26.1 per cent, while in government industrial establishments, only 2,000 women were employed in July, 1914, and 225,000 in July, 1918, or over a hundred times as many.

By far the greater part of the increase in the number of women factory workers was to be found in the munition trades. Indeed, in the three trades of paper and printing, textiles and clothing, the last two of which had been "women's trades" even before the war, there was an actual decrease of 86,000 in the number of women workers during the four year period under discussion. Out of the total increase of 792,000 in this group of occupations, 746,000 were

¹ British Association for the Advancement of Science, *Industry and Finance-War Expedients and Reconstruction*, pp. 39-40.

to be found in the metal, chemical and wood trades, which cover most of the munition work done by private firms and in government establishments, which were mainly munition factories.

Another interesting sidelight on the contribution of English working women to the needs of the war is brought out by the numbers employed in the manufacture of all kinds of military supplies, including such things as uniforms, shoes and food, as well as munitions. In April, 1918, a total of 1,265,000 women were employed by private concerns on war orders, while government work brought the total up to 1,425,000, about equally divided between munitions and ship-building.

EXTENSION OF THE EMPLOYMENT OF FEMALES IN INDUSTRY
DURING FOUR YEARS OF WAR¹

Trade	Estimated Number of Females Employed July, 1914	Estimated Number of Females Employed July, 1918	Increase(+) or Decrease(—) July, 1914- July, 1918	Per Cent of Females to Total Number of Work People Employed	
				July, 1914	July, 1918
Metal	170,000	594,000	+424,000	9	25
Chemical	40,000	104,000	+ 64,000	20	39
Textile	863,000	827,000	— 36,000	58	67
Clothing	612,000	568,000	— 44,000	68	76
Food, Drink, Tobacco...	196,000	235,000	+ 39,000	35	49
Paper and Printing.....	147,500	141,500	— 6,000	36	48
Wood	44,000	79,000	+ 35,000	15	32
China and Earthenware..	32,000				
Leather	23,100	197,100	+ 93,000	4	10
Other	49,000				
Government Establishments	2,000	225,000	+223,000	3	47
Total.....	2,178,600	2,970,000	+792,000	26	37

The addition of orders for the Allies brought the total number of women on war orders up to 1,750,000.

¹Great Britain, *Report of the War Cabinet on Women in Industry*, April, 1919, pp. 80-81.

The following table gives comparisons for April, 1917, and April, 1918, for the various classes of industry:

NUMBER OF WOMEN ENGAGED ON GOVERNMENT ORDERS IN
PRIVATE CONCERNS, APRIL, 1917, AND APRIL, 1918¹

Occupation	April, 1917	April, 1918
Building	13,000	16,000
Mines and Quarries	4,000	6,000
Metals	388,000	502,000
Chemicals	58,000	67,000
Textiles	238,000	338,000
Clothing	83,000	130,000
Food, Drink, Tobacco.....	32,000	53,000
Paper and Printing.....	30,000	41,000
Wood	28,000	39,000
Other	55,000	73,000
Total.....	929,000	1,265,000

In nonindustrial employments, including commerce, banking, work for the central and local government, transportation, hotels and theaters, agriculture and the professions, the increase over the prewar level of July, 1914, was 871,000 in July, 1918, a rise from 1,098,000 to 1,969,000 women workers. The increase in these occupations for the fourth year of war alone was much greater than the increase in factory workers during the same period, being 209,000 in contrast to 68,000.

The latest figures available for commerce are for April instead of July, 1918, and show that 850,000 women were then employed in wholesale and retail trade, about a 70 per cent increase since the beginning of the war. The new workers were employed principally by wholesale establishments and by grocery, fish, provision and hardware stores. In the latter months of the war a number of women were promoted to managerial and other positions of responsibility in stores. But in spite of all the extension of their employment, a considerable number of establishments reported a shortage of workers in April, 1918.

¹ Great Britain Board of Trade, *Report on the Increased Employment of Women during the War, with Statistics up to April, 1918*, pp. 8-9.

INCREASE IN EMPLOYMENT OF FEMALES IN COMMERCE, JULY, 1914-APRIL, 1918, AND PERCENTAGE OF FIRMS REPORTING A SHORTAGE OF FEMALE LABOR IN APRIL, 1918.¹

Occupation	Estimated No. Employed July, 1914	Estimated No. Employed April, 1918	Percentage of Firms Reporting a Shortage of Female Labor April, 1918
Wholesale and Retail Drapers, Haberdashers, Clothiers, etc.	132,000	167,000	20
Wholesale and Retail Grocers, Bakers, Confectioners	80,000	182,000	5
Wholesale and Retail Butchers, Fishmongers, Dairymen	42,000	69,000	8
Wholesale and Retail Stationers and Booksellers	34,000	47,000	12
Retail Boot and Shoe Dealers.....	13,500	22,500	14
Retail Chemists	10,000	24,000	10
All (including some not specified above) .	496,000	850,000	8

The term "transportation" in the statistics applies chiefly to steam railroads, as the employes of the many municipally owned tramways are classed under "local government." The number of women in the transportation group was four times as great in April, 1918, as in July, 1914, or 68,000 instead of 17,000. A list covering the principal lines of work in July, 1918, shows that the largest number of women were employed as telegraph and telephone operators, porters and carriage cleaners.²

NUMBER OF FEMALES EMPLOYED BY STEAM RAILWAYS.

	July, 1914	July, 1918
Booking Clerks	152	3,612
Telegraph and telephone operators and other clerks..	2,800	20,995
Ticket collectors .....	....	1,972
Carriage cleaners	214	4,603
Engine cleaners .....	....	3,065
Porters and checkers	3	9,980
Workshop laborers	43	2,547
Other laborers	420	580
Cooks, waitresses, attendants	1,239	3,641
Signalwomen, gatekeepers, guards	437	1,292
Machinists, mechanics	44	1,082
Painters and cleaners (including charwomen).....	698	1,177
Total (including unspecified).....	12,423	65,887

¹ Compiled from Board of Trade Report covering Extension of Employment of Women up to that Date.

² Great Britain, *Report of the War Cabinet Committee on Women in Industry*, April, 1919, p. 97.

In agriculture the increase was less than in most other kinds of work, the number of permanent women workers rising only from 80,000 to 113,000 in the four years. For the fourth year of war alone the number of permanent women workers in Scotland showed a rise for the first time, and there was a slight increase in England and Wales, the total gain over July, 1917, being 7,000. The number of casual workers dropped from 88,000 in 1917 to 65,000, however. This fact is ascribed to two causes. A larger number of male workers were available, including soldiers on furlough, war prisoners, enemy aliens and school boys. Also there was a much lessened demand for women in the two lines in which casual workers were most extensively employed—hops, in which the acreage was reduced by government order, and fruit, in which the crop was a failure in several localities.

The increase of opportunities for women in the professions was one of the most significant of the war time changes. The number of professional women more than doubled during four years of war, rising from 50,500 in July, 1914, to 107,500 in April, 1918. There was, of course, a much enlarged demand for nurses, and the number of women in Red Cross and military hospitals rose from 10,000 in July, 1914, to 38,000 in January, 1918. While the number of men teachers fell off by 22,000, the number of women teachers increased by 13,000, and they secured a larger proportion of appointments to the higher and better paid posts. In January, 1918, the Society of Incorporated Accountants and Auditors obtained permission to change their articles of incorporation so as to admit women, and a few weeks later reported that very desirable women candidates were applying for examination.

By the fourth year of the war women were also largely employed in the various government departments. In August, 1914, there were 36,000 women and 191,000 men in government work, but in January, 1918, the balance of the sexes had been reversed and the number of women had risen to 143,000, an increase of 296 per cent, while the number of men had been reduced to 135,000, a decrease of 29 per cent.

NUMBER OF FEMALES EMPLOYED BY GOVERNMENT DEPARTMENTS

	August 1, 1914	January 1, 1918
Admiralty (Headquarters)	98	4,101
Board of Customs	21	1,415
Food Ministry	New	3,086
Board of Inland Revenue	250	4,549
Ministry of Labor	1,017	3,239
Ministry of Munitions	New	9,925
Ministry of National Service	New	9,811
Ministry of Pensions	New	5,311
Postoffice	32,000	79,000
Board of Trade	15	1,842
War Office	156	9,665
All Others	2,715	11,961
Total	36,272	191,004

Perhaps the most direct help given by women to the progress of the war was their employment in work for the army behind the lines in France. In July, 1915, a member of the government, in answering an inquiry in the House of Commons as to the number of soldiers detailed for clerical work, remarked that on the continent "obviously neither old civilian clerks nor women clerks would be suitable." But two years later thousands of English women were at work there not only as clerks, stenographers, telegraphers and postal employes, but also as army cooks and cleaners and in the handling of supplies and various sorts of repair work. The majority were clerical or domestic workers, however. The women employed in this way were carefully selected and organized under semi-military discipline, as the "Women's Army Auxiliary Corps" (popularly known as the "Waacs"), and numbered over 50,000 before the end of the war. They wore uniforms of different colors, according to the branch of work which they undertook. They lived in small huts, often unheated, not far behind the battle lines, and were constantly exposed to danger. "Waacs" were at times killed in air raids, and a considerable number suffered from shell shock. Other smaller bodies of women organized on similar semi-military lines were the "Wrens," who were employed in certain shore duties for the navy, and the "Wrafs" who did wood-cutting under the Board of Trade.

The number of women replacing men, as well as the total number of women employed, reached its highest level during the fourth year of the war. In April, 1918, the latest date for which these figures were available at the date of writing, there were 531,000 substitutes in industry, 187,000 in government establishments, and 1,098,000 in nonindustrial occupations, or a total of 1,816,000 women who were carrying on work formerly done by men.¹ Ninety per cent of the women munition makers were said to be employed on men's jobs.² An index of the distribution of substitutes among different types of factory work may be gained from the results of a special questionnaire sent to manufacturers employing 277,000 women.³ Fifteen per cent were doing clerical work, 7 per cent warehouse work and packing, and 5 per cent other nonmanufacturing work, such as sack mending in flour mills and meter inspecting and show room work in the gas industry. Of the remaining 73 per cent, 9 per cent were engaged in "general laboring work," and many others in work requiring similar strength. "It is clear, therefore," says the report, "that the employment of women on heavy work has become an important factor in the situation. Though many of the processes mentioned were unskilled, it was noticeable how many of the women were engaged on skilled or semi-skilled processes."

¹ *Vide* Appendices E and F, pp. 237-238.

² Great Britain, *Report of the War Cabinet Committee on Women in Industry*, p. 81.

³ Great Britain, Board of Trade. *Report on the Increased Employment of Women During the War with Statistics up to April, 1918*, p. 8.

CHAPTER V

Organized Efforts to Recruit Women's Labor

The increase in the number of women workers and in the scope of their work by no means "came of itself." It was the result of a long process of agitation by private individuals, propaganda, organization and negotiation by the government, and in the production of munitions, where the need was most acute, even of legislation. Besides parliamentary action in the munitions industry, agreements between employers and trade unions, local committees on women's war employment, "Women's County Agricultural Committees" and a "Shops" and a "Clerical Occupations" committee of the central government were the chief agencies promoting a greater utilization of the services of women. In dealing with the various obstacles to an extension of women's employment, the wisdom of securing the cordial cooperation of organized labor in making industrial changes was clearly demonstrated. In the manufacturing industries a system of local representative committees under central official control brought much better returns than were obtained in agriculture without such committees—which points to satisfactory wages and working conditions as an essential addition to propaganda for securing more women workers. And, naturally enough, such methods as the use of photographs, personal visits by persons familiar with local needs, and the trial of a few expert women workers, all proved effective when general printed appeals had but slight effect.

Munitions Work

Probably the most serious obstacle to the recruiting of women workers was the body of trade union restrictions against their employment. A prime purpose of the well known munitions acts, which put a new aspect on many of

the relations between employers, employes and the state, was the abrogation of these trade union rules.

The change thus made compulsory on the industry was known as the "dilution" of skilled labor by less skilled—which, according to official definition, "fundamentally means increased employment of women with a view to releasing men."¹ The "dilution" movement is one of the most far reaching labor developments of the war, alike in the industrial transformation entailed, in the change in the status of women workers, and in its probable after war consequences. The events leading up to the passage of the acts, and the subsequent recruiting of women, form a fascinating chapter in English industrial history.

The increasing demand for munitions found workmen in the "engineering" (roughly, the machinists') trade, thoroughly organized, mainly in the Amalgamated Society of Engineers. This was one of the strongest unions in the skilled crafts, having a membership of 174,253 in 1914. The A. S. E., as it is familiarly called, did not admit women, and its rules among other things restricted the kinds of work which could be done by women, unskilled men, and nonunionists, limited the amount of overtime, and the number of machines to be tended by a single worker. In December, 1914, shortage of labor and the expanding demand caused the employers' federation in the engineering trades to ask the unions to give up these rules during the war period, but the negotiations which followed were fruitless. About this time the "industrial truce" was broken by the great strike of engineers on the Clyde, when their demand for a raise of pay at the expiration of their wage agreement was refused.

Labor unrest, charges that employes lost much time from work—in many cases, it was said, because of drink—and difficulties in getting a sufficient supply of munitions, caused the government to appoint, on February 15, 1915, a "Committee on Production in Engineering and Shipbuilding" "to inquire and report . . . as to the best steps

¹ Great Britain Ministry of Munitions, *Dilution of Labour Bulletin*, October, 1916, p. 6.

to be taken to ensure that the productive power of the employes in engineering and shipbuilding establishments working for government purposes shall be available so as to meet the needs of the nation in the present emergency."

The second report of the committee, issued February 20, on "Shells and Fuses," recommended as methods of increasing production, first, that the workers should cease to restrict earnings and output, in return for which no attempts to cut piece rates should be allowed, and second, that "there should be an extension of the practice of employing female labor on this work under suitable and proper conditions." The third report, issued March 20, made an analogous recommendation that, with proper safeguards to protect union interests, a greater use should be made of unskilled and semi-skilled labor during the war.

The "Treasury Agreement"

The next step toward "dilution" was the calling of a conference of representatives of the chief unions doing war work, which met with the Chancellor of the Exchequer, Lloyd George, and the president of the Board of Trade on March 17, 1915. No women's labor organizations were represented. At the conference Lloyd George showed that the need for munitions was greater than had in any way been anticipated, and begged the unions to give up all restrictions on output and to submit all disputes to arbitration during the war period. In return, the government would take control of the establishments affected and would limit their profits. A committee of trade unionists, also having no women members, was then appointed to draw up proposals embodying these principles. Their work is embodied in the so-called "Treasury Agreement," which was accepted on March 19, 1915, by all the union representatives present, except those of the Amalgamated Society of Engineers.

The clauses which permitted the increased employment of women included the following provisions: Each union was recommended "to take into favorable consideration

such changes in working conditions or trade customs as may be necessary with a view to accelerating the output of war munitions or equipments," provided the government imposed on contractors for munitions, war equipment, or "other work required for the satisfactory completion of the war," certain conditions intended to safeguard the unions and their wage rates. All changes were to be only for the war period, and should "not prejudice the position of the work people . . . or of their trade unions in regard to resuming prewar rules or customs after the war." After the war also preference of employment should be given workers who had enlisted or who were employed at the time the agreement was made. When semi-skilled men were introduced on work formerly done by skilled men, "the rates paid shall be the usual rates of the district for that class of work." Moreover, "the relaxation of existing demarcation restrictions or admission of semi-skilled or female labor shall not affect adversely the rates customarily paid for the job." A record of all changes was required to be kept, open to government inspection, and "due notice" of intended changes was to be given "where practicable," with opportunity for consultation by the workers or their representatives, if desired.

However, an agreement of this kind to which the Amalgamated Society of Engineers had refused assent was not a little like the play of Hamlet with Hamlet left out. Further negotiations were immediately held with the A. S. E., and on March 25, when certain additional safeguards had been added, they likewise accepted the agreement. The additions pledged the government to limit profits in the shops where union rules had been given up "with a view to securing that benefit resulting . . . shall accrue to the State," and to use its influence in the restoration of trade union conditions after the war. The restrictions were to be removed solely on work "for war purposes," and the workers might demand a certificate to that effect from the government department concerned. Most important of these additions in view of the sweeping changes taking place in the engineering industry was the

clause to the effect that where new inventions were introduced during the war, the class of workmen to be employed on them after the war "should be determined according to the practice prevailing before the war in the case of the class of work most nearly analogous."

In accordance with the terms of the agreement an advisory committee of labor representatives was appointed, to help in carrying out its recommendations, and several local "munitions committees" representing employers, employes and the public were formed for the same purpose.

But it is claimed of the "Treasury Agreement" that "except in so far as it prepared the mind of the worker for later compulsion, the agreement completely failed to achieve its purpose. The main cause of this failure was a feeling on the part of the men that they were being called upon to surrender what they regarded as their heritage, without the employers being called upon to make any corresponding sacrifice."

At any rate, the agreement was tried but little more than three months before it was superseded by legislation. A coalition ministry which the Labour party entered was formed in May. The shortage of munitions, which hindered the spring advance and which had been brought forcibly to general attention through the loss of life in the battle of Neuve Chapelle, was one of the chief causes for the fall of the Liberal party. In June a "Ministry of Munitions" was created, and Lloyd George was made minister.

The Munitions Acts

The first munitions of war act was passed July 2, 1915.¹ Its purpose as expressed in its title was "to make provision for furthering the efficient manufacture, transport and supply of munitions for the present war." It was drafted with the active cooperation of the Labour Advisory Committee, and was approved before passage by the majority of a conference of representatives of unions in the munitions indus-

¹ United States Bureau of Labor Statistics, *Monthly Review*, June, 1917, p. 815.

² 5 and 6 Geo. 5, ch. 54.

try. The radicals claim that the bill was passed primarily not so much to give a legal sanction to "dilution" as to prohibit strikes and to minimize the leaving of munitions work by individuals.¹

As amended in January, 1916, the possible scope of the act was wide. It might cover, to name the principal items, any articles "intended or adapted for use in war," any metals, machines, tools or materials required for their manufacture or repair, any construction or repair of buildings for military purposes, and even the erection of houses intended for munition workers, and the supply of heat, light, water, power and tramway facilities for munitions work. A commentator has said that it included practically "all work intended to aid the warlike operations in any way."²

Whatever its primary purpose, the act contained important sections relating to the abandonment of union rules and the dilution of labor. The Ministry of Munitions might declare any establishment in which munitions work was carried on, including government plants, a "controlled establishment." In such an establishment all trade union restrictions were to be given up, and on the other hand the employer's profits were limited to a maximum of one-fifth more than the average for the two years before the war. In February, 1917, there were reported to be 4,285 "controlled" establishments and 103 government munition factories. The rules and safeguards relating to the abandonment of trade union restrictions were, word for word, those of the "Treasury Agreement."³ The maximum penalty for violating the regulations was, for the workman £3 (\$14.40), and for the employer £50 (about \$240). The rest of the act was for the war period only, but the "dilution" clauses held for a year after the end of the war, for the purpose, obviously, of tiding over the demobilization period and making effective the government pledge of a restoration of

¹ *Labour Year Book*, 1916, p. 63.

² Thomas A. Fyfe. *Employers and Workmen under the Munitions of War Acts, 1915 and 1916*, p. 22.

³ Found in "Schedule II," supplementary to the first munitions act.

trade union rules and the dismissal of the women and unskilled men. But it will be noted that there was no reference to the provisions of the agreement with the Amalgamated Society of Engineers supplementary to the "Treasury Agreement." In this omission it would seem that the unions had seriously weakened their weapons for ensuring restoration of their rules and customs after the war. The importance of the "new machines" clause has already been discussed, and the specific pledge of the government to aid in restoration might also have been of value.

Organization for "Dilution" under the Munitions Acts

The Ministry of Munitions immediately began, during the summer of 1915, to develop an elaborate organization for increasing production and for "dilution" and, as has been noted, by the fall of 1915 the great rush of women into munitions work was under way. Besides numerous departments dealing with the various branches of production from the technical side, the Ministry organized a large labor department. One section, called the "Labour Regulation Department," dealt with working conditions and trade disputes. The other section was the "Labour Supply Department," which had charge of "dilution" and the supply of labor. In organizing the production of munitions the country was divided into forty-three districts, and in August, 1915, the Ministry of Munitions appointed three commissioners in each district to promote "dilution."

As a further aid the "National Advisory Committee," which had helped draft the "Treasury Agreement" and the munitions act, was enlarged to include additional labor members, representatives of the Ministry of Munitions and others, and became the "Central Labour Supply Committee," whose purpose was "to advise and assist" the Ministry of Munitions regarding the "most productive use of all available labor supplies."¹ "Local Advisory Boards" of labor representatives were also appointed to help the central committee.

¹ *Labour Year Book*, 1916, p. 70.

However, the officials on whom fell the brunt of the work of increasing "dilution" in individual shops were the "dilution officers" of the Labour Supply Department. These officials went from establishment to establishment, finding out the employer's needs in the way of labor and working out, with his cooperation if possible, plans by which the use of unskilled labor, especially woman labor, could be extended. The "dilution officer" reported to the central authorities and was advised to submit all plans to them for approval. In case complaints were made that women were not doing satisfactory work, where the use of women was not progressing as rapidly as desirable or if there was difficulty in finding suitable women workers, a woman dilution officer might be sent to straighten out the difficulty.¹ The women officers were also sent to investigate where women were being used for the first time "in order to ensure a good beginning," and in some cases they advised on the suitability of work before women were tried.

While the government gained the legal power to force dilution on munitions work through the first munitions act, "in practice it has been found necessary, almost without exception, to proceed by way of negotiation."² The *London Times* complained, in the spring of 1917, that after "the suspension during the war of all restrictions on output having been first agreed with the trade unions and then passed into law, the Ministry, instead of securing that these restrictions were in fact removed, proceeded to debate them 'from town to town, from lodge to lodge, and from works to works.'"³ But those administering the act gave instances in which the men refused to obey compulsory awards suspending trade union rules made without their consent, and believed that "it is impossible to set these practices aside except on the basis of their voluntary suspension, first by the representatives of all labor and then by the actual workers themselves."⁴

¹ Great Britain Ministry of Munitions, *Dilution of Labour Bulletins*, January, 1917, p. 47, and February, 1917, p. 55.

² United States Bureau of Labor Statistics, *Monthly Review*, June, 1917, p. 825.

³ *London Times*, weekly edition, May 4, 1917.

At all events, the instructions sent by the Ministry of Munitions in November, 1915, to employers in controlled establishments, outlining the steps to be taken in effecting dilution, stressed the importance of consulting the workers, and, if possible, of obtaining their cooperation. The workmen should be asked to form a "deputation" which might include their union officials if desired. Any proposed change should be explained to this body and its consent secured, if possible. Only in the event that an agreement could not be reached either with the deputation or with the local trade union officials, should the change be put into effect and the dispute settled under the compulsory arbitration clauses of the munitions act. In addition "before female labor is hereafter employed in the highly skilled branches of the engineering trade the proposal of the employer in question should be submitted to the Ministry for approval."

Propaganda by the Ministry of Munitions

Besides its legal powers, its "dilution officers," and its various advisory boards, the Ministry of Munitions carried on by a number of devices what was to all intents and purposes an advertising campaign to secure the utmost possible extension of female labor in diluting male labor. Over and above its numerous official instructions, the Ministry has published not a little propaganda material. In February, 1916, a large illustrated booklet was issued, "Notes on the Employment of Women on Munitions of War, with an Appendix on the Training of Munitions Workers." It contained photographs and descriptions of processes on which women were then employed. Its purpose, as given in a preface by Lloyd George himself, was as follows:

This book has been prepared by an expert engineer, who at my request visited workshops in various parts of the country where the dilution of skilled labor is in actual operation. It illustrates some of the operations which women, with the loyal cooperation and splendid assistance of the workmen concerned, are performing

in engineering shops in many parts of the kingdom.

The photographic records and the written descriptions of what is actually being done by women in munition factories, on processes hitherto performed solely by skilled men, will, I believe, act as an incentive and a guide in many factories where employers and employed have been skeptical as to the possibilities of the policy of dilution.

Being convinced that until that policy is boldly adopted throughout the country we can not provide our armies with such an adequate supply of munitions as will enable them to bring this war to an early and successful conclusion, I very earnestly commend this book to the most serious consideration of employers and employes.

January 28, 1916.

D. LLOYD GEORGE.¹

Beginning with October, 1916, dilution officers were aided by an illustrated monthly, *Dilution Bulletin*. Aside from instructions to the "D. O.'s" as to reports and procedure, the periodical was practically given over to descriptions of the work women were doing, and exhortations to the dilution officers to promote the use of still more women on mu-

¹ A comment on the publication from the point of view of the woman trade unionist may be of interest. It is to be found in *The Woman Worker*, the organ of the National Federation of Women Workers, for March, 1916, and is called "Lloyd George's Picture Book."

Our women munition makers ought to be proud: "Mr. Lloyd George has brought out a picture book about them!" It is a large, handsome book, costing 1s., entirely full of pictures of women workers and all the processes they can do. According to Mr. Lloyd George, never were there such useful workers as women munition workers. He says they can do brazing and soldering, they can make 8-in. H. E. shells, they can drill 8-pounder shells, and some of them are very successful in making high explosive shells.

Well, it is very nice to be praised by so important a man, and it is even nicer that he should take the trouble to have a book filled with pictures of the girls at work. We women, however, have always had in our minds a lurking suspicion that we were, after all, as clever as the men, and it is pleasant enough to hear Mr. Lloyd George say so. But there is a conclusion to be drawn from all this. If girls are as important and as clever as the men, then they are as valuable to the employer. If this is so it becomes a duty of the girls to see now and always, whether on government work or not, that they receive the same pay as the men. Otherwise, all their cleverness and their intelligence go to helping the employer and bringing down the wages of their husbands, fathers, and brothers.

nitions work. "Process Sheets," containing details of operations successfully carried on by women, were also issued. A special collection of photographs of women workers was likewise available for the use of dilution officers, and was said to have been effective in convincing skeptical employers that they could use women. Expert women "demonstrator-operatives" might be secured by the dilution officers either to act as pacemakers in speeding up production or to demonstrate that a particular job lay within women's powers. In the spring of 1917, the Ministry developed still another method of propaganda, namely, an exhibition of women's work which was shown in different industrial centers.

The results of all this activity in the rising numbers of women munition workers have already been pointed out. The gain during the war of 424,000 in the metal trades, which was nearly three times the prewar level, the introduction of 25,000 women into Woolwich Arsenal, and the statement by representatives of the Ministry of Munitions in November, 1917, that 80 per cent of all munitions work was then performed by female labor, have been cited.

Yet, as late as October, 1916, the Ministry of Munitions stated that the "average of dilution remains very low." Beginning March 31, 1917, all contracts for shells were let on the conditions that on all shells from two and three quarters to four and one-half inches, 80 per cent of the employees must be women, and that on all larger shells the instructions of the Labour Supply Department as to the proportion of women, semi-skilled and unskilled males must be obeyed. Nevertheless, in March, 1917, it could be said that "we have by no means reached the limits of the possibilities of employing women in connection with war work,"¹ and in May the *Times* complained that only a fraction of the replacement which had been proved possible had actually been made.²

While in America in November, 1917, Mr. G. H. Baillie,

¹ Great Britain Ministry of Munitions, *Dilution of Labour Bulletin*, April, 1917, p. 82.

² *London Times*, weekly edition, May 4, 1917.

the "Chief Technical Dilution Officer" of the Labour Supply Department, said that "dilution" was progressing on a large scale, and even up to the last months of the war the increase of women in the munitions trades continued.

"Dilution" in Other Industries by Trade Union Agreement

In a number of other trades besides engineering where union rules hindered the replacement of men by women, agreements were reached between employers and employes which permitted substitution during the war period. The agreements were not the subject of legislation, but were, in most cases, the result of trade conferences called jointly by the Board of Trade and the Home Office at the request of the Army Council. The purpose was to reorganize each industry so as to release as many men as possible for the army.

Most of the agreements were made during 1915 and 1916. Among the industries covered in that year, either nationally or in some localities, were cotton, hosiery, leather, woolen and worsted, silk and felt hats, printing, bleaching and dyeing, woodworking, biscuit, pastry baking, wholesale clothing, boot making and earthenware and china. In 1916, similar agreements were concluded in lace making, hosiery finishing, printing, electroplating, cutlery, textile bleaching, tobacco and brush making. Heavy clothing and flint glass decorating were covered in 1917, and several local agreements were also made in light leather tanning and scientific instrument making, two occupations in which women substitutes were particularly successful.¹

The trade unions were, on the whole, as unfavorable to the introduction of women in other new lines as they were in munitions and yielded only reluctantly, under pressure of the necessities of war. Even after agreements had been signed in the electroplating and leather glove trades, the continued opposition of individual workers greatly hindered the progress of substitution. They frequently alleged that

¹ Great Britain, Home Office. *Substitution of Women in Nonmunition Factories during the War*, pp. 27-50.

a given kind of work was unsuitable for women on moral or physical grounds. But their real objection was probably the fear either that women would lower the men's wage rates directly, or that the existence of a reserve of experienced female labor would endanger the men's position in any postwar industrial depression.

The union's point of view is revealed in the conditions which they required before they would sign substitution agreements. "The operatives," said the factory inspectors, "not unnaturally asked for guarantees that those who left to join the Forces should have their places kept open for them, that suspension of rules should be regarded as a war emergency only, that there should be a return to former conditions at the end of the war, and that there should be a fair settlement of the wage question affecting the employment of women or other labor called in to take the place of the men."¹

The conditions of the agreement made in June, 1915, between unions and operators in the leather trade, whose needs had been greatly increased by the demand for military equipment, were typical of these settlements, and of the precautions taken to safeguard the regular employes. Women were to be allowed on "men's work" during the war period when men could not be obtained. Their work was, however, limited to operations "they are physically fit to perform," they were to be paid men's rates, and the local trade union officials were to be consulted in each case before substitution was made. When men and women were employed in the same department, it was recommended that they be separated, as far as possible.² It should be emphasized that wherever women replaced men under these agreements or under the munitions acts, unless the trade unions consented to other arrangements, the women were supposed to hold their new positions only during the war period.

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 4.

² British Association for the Advancement of Science, *Credit, Industry and the War*, p. 151.

Other Measures to Increase Substitution—Industrial

The activities of the government to enlarge the scope of women's work in cases where no trade union rules stood in the way form still another interesting series of propaganda efforts.

The first such attempt was a scheme of national voluntary registration for women, begun in March, 1915. Stating that its object was to find out what reserve of woman labor could be made available if required, the government invited all women who were "prepared, if needed, to accept paid work of any kind—industrial, agricultural, clerical, etc.,—to enter themselves upon the register of women for war service at the labor exchanges."

The appeal caused many protests among representatives of labor, first because there was still believed to be much unemployment among women wage earners, and second, because of the failure to propose any safeguards to ensure good working conditions or "equal pay for equal work." It was charged that the farmers' union was behind the plan and that it was trying to get cheap woman labor instead of raising the wages of the men.

The War Emergency Workers' National Committee immediately passed a resolution pointing out "that there are still 60,000 men and boys and 40,000 women and girls on the live register of the labor exchanges. . . . The committee is strongly of opinion that in drafting women into any industries care must be taken to prevent the stereotyping of bad conditions and low wages, or to endanger standard conditions where they obtain; that this should be secured by a tribunal representative of the organized wage earners—men and women; and that further efforts should be made to find situations for those persons now on the register before taking steps to bring in fresh supplies of female labor."

The Woman's Freedom League, a suffrage society, issued a strong protest along similar lines, with the emphasis on "equal pay for equal work."

The Women's Freedom League are glad to note the tardy recognition by the government of the value of women's work brought before the country in their schemes of war service for women. We demand from the government, however, certain guarantees.

Firstly, that no trained woman employed in men's work be given less pay than that given to men.

Secondly, that some consideration be given when the war is over to the women who during the war have carried on this necessary work.

Thirdly, that in case of training being required proper maintenance be given to the woman or girl while that training is going on.

Recognizing that the government's scheme offers a splendid opportunity for raising the status of women in industry, we urge that every woman should now resolutely refuse to undertake any branch of work except for equal wages with men. By accepting less than this women would be showing themselves disloyal to one another, and to the men who are serving their country in the field. These men should certainly be safeguarded on their return from any undercutting by women.

The "War Register" having brought the question of increased employment of women to the front, on April 17 the workers' national committee called a national conference of trade unions with women members and other women's labor organizations at which the chief resolution demanded "that as it is imperative in the interests of the highest patriotism that no emergency action be allowed unnecessarily to depress the standard of living of the workers or the standard of working conditions, adequate safeguards must be laid down for any necessary transference or substitution of labor." The safeguards outlined included membership in the appropriate trade union as a prerequisite for war service, "equal pay for equal work," no war employment at less than a living wage, maintenance with training where necessary, preference being given in this to unemployed women who were normally wage earners, and reinstatement

of the displaced men at the end of the war, with, at the same time, "guaranteed employment" to the discharged women.

The "War Register" did not, after all, prove to be of much importance in the extension of women's employment. Though 33,000 women registered within a fortnight, and 110,714 during the whole period of registration, up to the middle of September, jobs were found for only 5,511 of them,¹ because, it was said, they lacked the necessary skill to fill the vacancies for which they were wanted.²

Much more effective than the war register was the work of the interdepartmental committee of the Home Office and the Board of Trade appointed in November, 1915, "to consider the question of utilizing to the full the reserve of women's labor."³ The committee worked principally through local committees, which were at work in thirty-seven towns in November, 1916. The members of these committees were "chosen for their interest in women's employment," and included employers, employees and representatives of such societies as the Young Women's Christian Association and the Women's Cooperative Guild. An officer of the local employment exchange acted as secretary of each such committee, and representatives of the Home Office and the Board of Trade attended its meetings "in a consultative capacity."

The work of the committees varied according to local needs, and included efforts to keep up the supply of women in their normal occupations as well as to secure substitutes for men's work. In several textile towns a shortage of workers in the mills was relieved by securing the services of women formerly occupied, who were now living at home. In one town enough women were obtained by a house to house canvass to restart 400 looms. An appeal for women workers placed in the Glasgow trams brought good results. In places where there were many unemployed or unoccupied women the local committee tried to persuade some of them

¹ *Labour Year Book*, 1916, p. 81.

² British Association for the Advancement of Science, *Credit, Industry, and the War*, p. 72.

³ *Labour Gazette*, November, 1916, p. 403.

to migrate to places needing additional labor. In Cambridge, for instance, several meetings were held for this purpose and a loan fund for traveling expenses was raised.

Some of the most important work of the local committees was done in munition centers where it was necessary to bring in women workers. In such places, members of the committee met the strangers on arrival, took them to suitable lodgings, and "initiated schemes for their welfare outside the factory." In Gloucester, where the committee investigated lodgings for 2,000 women, it was entrusted by the Ministry of Munitions with establishing a temporary hostel for women for whom lodgings could not be found.

The committees were active in various other forms of "welfare work." They arranged a conference of "welfare workers," and fostered the introduction of factory "canteens." The Woolwich committee started a club and recreation ground for the women employes of the great arsenal, and a nursery for the children of employed mothers.

Several towns reported "active efforts," including conferences with employers, on the substitution of women for men. Interesting work of this kind was done in Bristol where a number of unemployed women were persuaded to train for "men's work" in the shoe trade.

The next effort by the two departments was a joint appeal, in March, 1916, to employers to keep up production by taking on women. Noting that there were already complaints of a labor shortage and of idle plants, the appeal continued:

There is one source, and one only, from which the shortage can be made good—that is the great body of women who are at present unoccupied or engaged only in work not of an essential character. Many of these women have worked in factories and have already had an industrial training—they form an asset of immense importance to the country and every effort must be made to induce those who are able to come to the assistance of the country in this crisis. Previous training, however, is not essential; since the outbreak of war women have given ample proof of their ability to

fill up the gaps in the ranks of industry and to undertake work hitherto regarded as men's.¹

Concerted action by employers was necessary to reorganize their work so as to use the maximum number of women and to let the local employment exchange know their exact requirements for women. The Home Office, the Board of Trade and the factory inspectors would give all the help in their power in making any such rearrangements. "We are confident that the women of the country will respond to any call that may be made, but the first step rests with the employers—to reorganize their work and to give the call."

By July, 1916, the Board of Trade had established "an information bureau for the collection and circulation of information as to the replacement of male by female labor," and soon after, again cooperating with the Home Office, it issued a series of "Pamphlets on the Substitution of Women for Men in Industry," describing branches of work which were considered suitable by the factory inspectors and in which women were successfully employed. The twenty-seven little pamphlets covered trades as far out of women's ordinary field as brick making, "oil seed and feeding cake," leather tanning and currying and flour, as well as the more usual clothing and cotton trades. Under each trade were enumerated the processes on which women had been substituted for men, opportunities for training, and any relaxation of the factory acts, or of trade union rules which favored their employment. The results of this propaganda by the Home Office and the Board of Trade have nowhere been exactly estimated, but whether due to it, or to the necessities of the labor situation, or to both, it was soon followed by a marked increase in the number of women doing men's work.

In September, 1916, the War Office took a hand in the propaganda. Its contribution was a large illustrated pamphlet listing occupations on which women were successfully employed. The purpose of the book was primarily to guide the administrators of the conscription act and to re-

¹ *Labour Gazette*, March, 1916, p. 83.

duce the number of exemptions from military service on the grounds of industrial indispensability. Incidentally, it was "offered as a tribute to [women's] effective contribution to the Empire in its hour of need." It was much criticised because of the lack of discrimination shown in recommending certain kinds of work. It would seem that the heavy lifting involved or the disagreeable nature of the surroundings made such work as loading coal, planks and miscellaneous freight, moving coke and beer barrels, handling heavy steel bars, stoking and the removal of leather from dipping beds entirely unsuitable for women. But much of the work pictured, such as reaping, the care of horses, driving a steam roller and bakery work, though far removed from the usual lines of "women's work," did not seem to be objectionable. Still other occupations, where little strength and considerable skill were required, for instance, piano finishing and tuning, making ammunition boxes, modeling artificial teeth, repairing railway carriage seats and the preparation of soldiers' dinners, would seem positively desirable additions to the field of women's work.

The most ambitious of the government's attempts to keep up the essential industries of the country under war conditions was the "National Service Department," created early in 1917. It commandeered a hotel for its headquarters, and assembled a large staff. Through this department it was planned to secure the enrollment of all persons of working age, who were then to be transferred to "trades of national importance," if not already so employed. Volunteers to go wherever they were assigned were first called for, and as the response was only slight, conferences with employers and employees were begun to find out what men various firms could spare, and to arrange for their transference to essential war work by the "Substitution Officers" of the Department. The duplication of the work of the employment exchanges is evident. Enrollment and transference were to be purely voluntary, though among the labor groups there were murmurings that the scheme was but a prelude to industrial conscription. But in April the plan was called a "fiasco," and it was alleged that only a

few hundred placements had actually been made.¹ In August, however, the department was reorganized and its purpose was stated to be that of coordinating to the best advantage the labor power of the nation rather than of acting as an employment agency.

In the winter of 1917 a "Woman's Section" had been set up by the "Director of National Service" in charge of two women well known for their interest in the problems of women's work, Mrs. A. J. Tennant and Miss Violet Markham, of whom it was said that they had been "asked to bring order out of chaos at the eleventh hour."² The principal achievements of the women's section were the formation of the "Waacs" for work behind the lines in France, which has been previously described, and also a moderate sized "land army" of women for agricultural work. An effort to carry through another registration of women for war work does not seem to have been particularly successful.

Other Measures to Increase Substitution—Trade and Commerce

The chief governmental reports covering nonindustrial lines of work are those of the "Shops Committee" and the "Clerical and Commercial Employments Committee," both formed in the spring and reporting in the fall of 1915. The former stated that it was organized to see how Lord Kitchener's demand for "more men, and yet more men" could be met by releasing men employed in stores. In the judgment of the committee very few men needed to be retained, except in the heavier branches of the wholesale trade. The committee distributed circulars to shopkeepers throughout the country asking how many men could be released for the army and calling attention to the emergency. A large meeting of representatives of the unions and the employers' associations was held in London and fifty-five local meetings for the trade through the country, at which resolutions

¹ *The New Statesman*, April 7, 1917, p. 4.

² *The Woman Worker*, April, 1917.

were passed pledging those present "to do everything possible" to substitute women for men. "What we feel we have done," said the committee, in summing up its work, "is to bring home to shopkeepers in England and Wales the necessity (and the possibility) of rearranging their business so as to release more men for service with the Colours."

The other committee, on "Clerical and Commercial Employments," was formed to work out a plan for "an adequate supply of competent substitutes" for the "very large number of men of military age" still found in commercial and clerical work. The committee estimated that 150,000 substitutes must be secured, and that they must be drawn mainly from the ranks of unoccupied women without previous clerical experience. It recommended the securing of such women from among friends and relatives of the present staffs, the starting of one and two months' emergency training courses by the education authorities and the placement of the trained women through cooperation with the local employment exchanges. The committee went on record in favor of the reinstatement of the enlisted men after the war, and meanwhile "equal pay" for the women substitutes. It brought the need of substitution before the various commercial and professional associations whose members made use of clerical help.

Campaign for Substitution in Agriculture

Propaganda efforts in agriculture were numerous, but judging from the comparatively small increase in the number of women workers, they were relatively less successful than those in industry and trade. In the minds of both farmers and country women as well as in the public mind, women's work on the land was usually associated with backward communities, seasonal gangs and a low class of worker. Such prejudice was overcome largely by the work of educated women on the farms. The large number of employers in comparison with the number of workers, and the reluctance of the farmers to make use of the employ-

ment exchanges, are mentioned as other handicaps to agricultural substitution.¹ The failure to raise wages materially or to improve living conditions was also not an unimportant factor in holding back the movement of women workers to the land.

In 1915 the Board of Agriculture started a movement for the formation of "women's war agricultural" or "farm labor" committees. In the spring of 1916 the Board of Trade joined the Board of Agriculture in the work. The committees were supposed to cooperate with the war agricultural committees of men which had been formed in each county, but the connection was considered often to be less close than was desirable. The women's committees were made up of "district representatives," who, in turn, worked through local committees, or "village registrars" or both. In the late autumn of 1916 there were sixty-three county committees, 1,060 "district representatives" and over 4,000 "village registrars." The Board of Agriculture formed a panel of speakers for meetings, and the Board of Trade appointed women organizers for various parts of the country. Local meetings to rouse enthusiasm were followed by a house-to-house canvass in which women were urged for patriotic motives to enroll for whole or part time work. The village registrar then arranged for employment of the women listed either through the local employment exchange or as they heard of vacancies. The women were told that "every woman who helps in agriculture during the war is as truly serving her country as the man who is fighting in the trenches or on the sea." Each registrant was entitled to a certificate, and after thirty days' service might wear a green baize armlet marked with a scarlet crown.

During the season of 1916 it was estimated that 140,000 women registered. Seventy-two thousand certificates and 62,000 armlets were issued,² although many of the regular women workers on the land refused to register for fear of becoming in some way liable to compulsory service. Women

¹ British Association for the Advancement of Science, *Industry and Finance*, pp. 146-147.

² *Labour Gazette*, February, 1916, p. 43.

registrants were said to be found in almost every kind of farm work, even to ploughing, but were naturally more often successful in such lighter forms as weeding, fruit and hop picking, the care of poultry, dairy work and gardening. They were considered especially good in the care of all kinds of animals.

The elaborate plans of the government and the low wages paid were commented on in characteristic style by *The Woman Worker*.¹

WOMEN ON THE LAND

It is announced in the papers that the government have decided to start a recruiting campaign for women to work on the land. Four hundred thousand are wanted; and they are to be registered and to be given an armlet. Now, work on the land is useful work, and much of it is suitable to women; but there are points about this scheme which we should do well to look at. It is said that a representative of the Board of Trade at a meeting at Scarborough, said that the wages would be from 12s. to £1. Twelve shillings is not a proper living wage for a woman; and our masters seem to know this. The *Daily News*, in explaining the government scheme, says, "It is frankly admitted that much of the most necessary work is hard and unpleasant, and by no means extravagantly paid. *That is why the appeal is made exclusively to the patriotism of the women. There is no question (as in the army itself) of any really adequate reward.*" Well, why not? The farmers are doing very well. The price of corn is higher than has ever been known before. Why should women be deprived of "any really adequate reward"?

Why should women assist in keeping down the miserably low wages of agricultural laborers? If there was "no question, as in the army itself," of any really adequate profits, then there might be something to be said for the government. As it is, no armlets and no "patriotism" ought to make women work at less than a living wage.

¹ *The Woman Worker*, March, 1916, p. 3.

Another minor but interesting development of 1916 was that of organized gangs of women farm workers under a leader. Several of these were successful in doing piece work jobs for different farms in rotation. Others cultivated unused allotments and waste lands. The principal women's colleges, especially the University of London, provided 2,890 "vacation land workers" in gangs for fruit picking and the like. Two successful bracken cutting camps were also maintained, at which women worked for eight weeks under semi-military discipline.

In January, 1917, the Board of Agriculture further developed its organization by starting a "Women's Labor Department." Organizing secretaries were placed in the counties, grants were made to certain voluntary organizations, and 16 traveling inspectors were sent out to advise on grants, inspect living conditions and the like. Steps were also taken to obtain closer cooperation with the men's county agricultural committees. As has been indicated, the number of women workers failed to increase between 1916 and 1917 as much as between 1915 and 1916, but in 1918 a more decided increase occurred.¹ Later, when the Department of Food Production was formed, it took over both the men's and the women's county agricultural committees.

The only English organization dealing with agricultural work by women prior to the war was the "Women's Farm and Garden Union," which promoted the training of educated women for gardening. In February, 1916, this body secured land for a training school from the Board of Agriculture, and formed the "Women's National Land Service Corps," which was joined by about 2,500 women up to January, 1918. Members received six weeks' training and were then sent out to the farms, preferably in groups of two or three who could live in a cottage together, "perhaps with a friend to do the cooking." Others lodged in the villages or with their employers. The members of the corps were said to be "educated girls who had gone into the work mostly from patriotic motives." Girls entirely

¹ *Vide* Appendix D, p. 236.

dependent on their earnings were not encouraged to join, "because of the low rate of pay." The corps refused to send out workers, it should be noted, unless the pay covered living expenses, unless, considering the women's ability and experience, it was equal to men's rates, or if their workers would undercut or supplant local women. The corps believed that it had accomplished more than its numbers would indicate, in that its carefully chosen members had often convinced doubtful farmers that women could do more agricultural work, and that several of its workers had organized the village women into whole or part time gangs.

In March, 1917, the Department of National Service launched its scheme for a "Women's Land Army," using the corps as a nucleus. Women were to enlist for farm work for the duration of the war under semi-military conditions of mobilization. Applications for service were made through the Ministry of Labor, but selection, training and placement was in the hands of the women's war agriculture committees and officials of the Board of Agriculture. Members of the Land Army were selected with great care so that they could be guaranteed to be strong and physically fit. Out of 40,000 women applying up to July, 1917, only 5,000 were accepted. If necessary, the women were given four weeks' training with pay, and railway fare to their place of employment. When once at work they were not allowed to leave except with permission of the "district representative." The numerical results of this elaborate organization were not very large, though the influence of the army's selected members in showing that women could do farm work was perhaps out of proportion to the numbers. Between 7,000 and 8,000 permanent women workers were placed on farms by the Land Army up to January, 1918, in addition to about 1,000 seasonal workers in gangs.

CHAPTER VI

Sources of Additional Women Workers

The question naturally arises, where did the increased number of women workers come from? Who were the thousands of munition workers, the girls undertaking men's jobs, and all the army of a million and a third women who were at work in July, 1918, and not in July, 1914?

Transfers from Nonessential Industries

The increase during the first months of war in the industries equipping the troops was met for the most part by a transference of workers from slack to busy lines. "So great has been the passing from industry to industry," said the factory inspectors,¹ "that at the beginning of the New Year it seemed almost as if women and girls had gone through a process of 'General Post.' " For instance, makers of high class jewelry in Birmingham transferred to light metal work for the army. Silk and linen weavers went into woolen mills and dressmakers in the west Midlands were taken on in light leather work. In other cases slack industries took up government work. The activity of the Central Committee on Women's Employment in securing contracts for uniforms for idle dressmaking establishments has already been mentioned. The Scottish fish workers were relieved by knitting orders. Certain carpet mills took up the weaving of army blankets, corset makers were set to making knapsacks, girl workers on fishing tackle were used in the manufacture of hosiery machine needles, previously imported from Germany, and an effort was made to provide the manufacture of tape and braid for uniforms for unemployed lace makers in the Midlands. Army shirts were made by many of the Irish collar fac-

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 33.

tories. In retail trade also there was often a transfer from slack to busy shops, as from dressmaking and millinery to the grocery trade. Middle aged professional women whose ordinary occupations were unfavorably affected by the war frequently took the positions in banks, insurance offices and other business offices which had for the first time been opened to women. Yet in the two trades which suffered most severely from unemployment, namely, cotton textiles and dressmaking, there was a much "less general movement of the workers to find a livelihood in other directions." This was considered due in the one case to "relatively high wages and specialized factory skill," in the other to "deep-rooted social traditions and special craft skill."

Very early in the war, also, married women who had worked before marriage returned to industry. A large proportion of the expanding needs of the woolen trades was filled in that way. In "drapery"—that is to say, "dry goods"—shops, and in cotton and shoe factories and potteries, many of these "dug-out" married women also appeared. Municipalities, when substituting women for men on tram cars and in other services, frequently gave preference to the wives of men who had enlisted. Many married women entered the food trades and they did not seem to object to dirty work in foundries and other places as did single women. In the professions, also, some women returned to teaching and clerical work. Soldiers' wives likewise entered munitions work in large numbers. While the reason for their reentering work was probably largely economic—rising food prices and "separation allowances" insufficient to maintain a skilled worker's standard of living, particularly if the family was large—yet their choice of occupations appears to have been at least partly dictated by patriotic motives.

As the war went on, the transfer of women from "normal" women's occupations, such as domestic service, dressmaking, textiles, the clothing trades and laundry work to the more highly paid lines, especially munitions work, be-

came more and more noticeable. The actual decline in numbers in these occupations has previously been described.¹ In addition to the decreases in these trades, a considerable change in personnel was observed, involving "the loss of skilled women and the consequent deterioration of the quality of labor."² For example, skilled women left laundry work, and their places were filled by charwomen, or young girls fresh from school. Not infrequently the skilled women went to almost unskilled work, as from textiles to munitions.

On the other hand, war conditions occasionally kept women at home who were previously employed. In districts where large numbers of soldiers were billeted women were kept busy at home attending to their needs. Especially in colliery districts the rise in men's wages caused married women who were thrown out of work at the beginning of the war to become indifferent to obtaining new positions. In some cases, notably in the Dundee jute mills, separation allowances placed the wives of casual workers who had enlisted in a state of comparative prosperity, and they ceased to go out to work. But on the whole the war doubtlessly increased the employment of married women.

In spite of impressions to the contrary, the proportion of previously unoccupied upper and middle class women entering "war work" was by no means large. Some young girls from school who would not normally have gone to work and some older women who had never worked before entered clerical employment, especially in government offices, and often obtained promotion to supervisory positions. A limited number of well-to-do women took up such temporary farm work as fruit picking from patriotic motives. Many of the women working behind the lines in France and as military nurses were from the "upper classes." And an appreciable number of munition workers were drawn from the ranks of educated women. One such worker estimated that in the large establishment where she

¹ *Vide* pp. 35, 38.

² British Association for the Advancement of Science, *Labour, Finance, and the War*, p. 71.

was employed, about nine out of 100 women belonged to that class:¹ Educated women were particularly likely to take up such skilled occupations as oxy-acetylene welding, tool-setting, and draughting, where their trained minds proved advantageous. Daughters of small tradesmen and farmers, who had not worked before except in their own homes, were likely to become forewomen and supervisors, positions for which their reliability and common sense well fitted them.² The "week-end munition relief workers," or "W. M. R. W.," who worked Sundays in order to give the regular staff a rest day, were rumored to include among their members "dukes' daughters and generals' ladies, artists and authors, students and teachers, ministers' and lawyers' wives,"³ but this class of workers was, after all, small and was not increasing.

Mainly, however, the new needs of industry have been filled by working women or the wives of working men. Former factory hands, charwomen and domestic servants are found on the heavier work, and shopgirls, dressmakers and milliners on the lighter lines.

A fairly large proportion of the increase may, moreover, be accounted for without the recruiting of new workers. Numbers of home workers, of half employed charwomen and of small shopkeepers and other employers have voluntarily become regular employees. During the war fewer women married and of those who did marry a large proportion seem to have remained in industry. A writer in *The New Statesman* noted of certain women munition workers that "a large majority of them—even girls who look scarcely more than sixteen—wear wedding rings."⁴

A general idea of the sources from which the new workers came into industry may be obtained from an analysis made in January, 1917, of the prewar occupations of nearly half a million women and girls who were insured against

¹ Monica Cosens, *Lloyd George's Munition Girls*, 1916, p. 114.

² Miss O. E. Monkhouse, M. B. E., in *Railway News*, March 30, 1918, p. 368.

³ Henriette R. Walter, "Munition Workers in England," *Munition Makers*, 1917, p. 138.

⁴ *The New Statesman*, January 13, 1917, p. 346.

unemployment, covering nearly all the munition trades. Seventy per cent of the 444,000 workers considered had changed their occupation during the war. Twenty-three per cent had changed from one kind of factory work to another, 22 per cent had not been employed except with housework in their own homes, 16 per cent had been in domestic service, and 7 per cent had been at work in other nonindustrial employments. Assuming that the same proportions held for the 778,000 additional women found in private factories and government establishments in July, 1918, 178,000 of them would have come from other kinds of factory work, 171,000 from the home, 125,000 from domestic service, and 54,000 from nonindustrial occupations.

PREWAR OCCUPATIONS OF 444,137 FEMALES INSURED AGAINST
UNEMPLOYMENT IN JANUARY, 1917¹

Prewar Occupation	Metal Trades (except Engi- neering)		Chemical Trades (incl. small arms)		Clothing		Other insured trades		All insured trades	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Same trade	53,249	48.1	14,634	8.4	38,256	53.6	30,399	34.3	136,538	30.7
Household duties and not previous- ly occupied.....	18,927	17.1	52,401	30.2	9,334	13.1	17,843	20.2	98,511	22.2
Textiles Trades...	3,408	3.1	6,226	3.6	1,000	1.4	4,374	4.9	15,008	3.4
Clothing Trades...	4,635	4.2	17,941	10.3	8,430	11.8	8,787	9.9	39,793	9.0
Other Indus.	12,458	11.3	20,879	12.0	5,745	8.0	10,065	11.4	49,147	11.1
Domestic Serv....	12,502	11.3	44,438	25.6	4,970	7.0	12,062	13.7	73,992	16.6
Other nonindustrial occupation	5,449	4.9	17,079	9.9	3,643	5.1	4,977	5.6	31,148	7.0
Total insured...	110,628	100.0	173,604	100.0	71,378	100.0	88,527	100.0	444,137	100.0

Transfers between Districts

In connection for the most part with the expanding munitions industry there has developed a phenomenon rare on any large scale in the history of women in industry, namely, the transfer of women workers from their homes to other parts of the country. Especially in England such transfer was carried on during the war on a fairly large scale. The British Government has naturally not encouraged detailed statements of the building of new munition plants and the extension of old ones, but occasional glimpses reveal revo-

¹ *Labour Gazette*, December, 1917, p. 438.

lutionary changes. In a speech to the House of Commons in June, 1917, the British Minister of Munitions said:

But the demands of the artillery programme, as it was formulated in the latter half of 1915, were such that it was necessary to plan for the erection of large additional factories. . . . They were erected at such a pace that what were untouched green fields one year were the sites a year later of great establishments capable of dealing with the raw materials of minerals or cotton, and of working them into finished explosives in great quantities every week.

Moreover, firms in operation before the war frequently doubled and quadrupled their capacity. In Barrow, for instance, a somewhat isolated town in the northwest of England, the population grew from 75,000 in 1914 to 85,000 in 1916 on account of the enlargement of a munitions plant. To meet the needs of such centers it was necessary to secure workers from many other localities.

Effort was made to center any transfer of women workers in the employment exchanges. The Ministry of Munitions' handbook of "Instructions to Controlled Establishments" recommended application to the employment exchanges for all female labor instead of engaging it "at the factory gate" in order that the supply might be organized to the best advantage and "any unnecessary disturbance" of the labor market avoided. But the recommendation was not universally adopted. An undated circular of the Ministry complained that in cases where the exchanges were not used skilled women, such as power machine operators and stenographers, for whom there was an "unsatisfied demand" on government work, had been hired for unskilled munitions work where unskilled women were available. Women had been brought into towns where lodgings were almost impossible to obtain while suitable local women were unemployed. Such occurrences and the "stealing" of skilled men by one employer from another caused an order to be made under the Defence of the Realm Act on February 2, 1917, which forbade the owner of an arms, ammunition,

explosives, engineering or shipbuilding establishment to procure workers from more than ten miles away except through an employment exchange.

The employment exchange figures of the number of women obtaining employment in other districts, which therefore probably cover an increasing proportion of the movement, are for 1914, 32,988, for 1915, 53,096, and for 1916, 160,003.¹ In March, 1917, the number of women workers being moved to a distance through the exchanges was between 4,000 and 5,000 a month. In February, 1917, 5,118 women from some 200 different exchange areas were brought into eight large munition centers alone. In this one month, 1,641 women were brought from sixty-three different districts to a single munitions factory in the south of Scotland, and to another in the West Midlands 772 women "were imported from centers as far apart as Aberdeen and Penzance." From Ireland, where the conscription acts were not in force, and where women did not replace men in industry to any large extent, many girls crossed over to work in British munition factories. Official judgment ascribed the increased mobility of women labor to the rise in wages and the appeal of patriotism, which together supplied an incentive previously lacking.

Besides the munition workers, the transfer is noted during 1914 of silk and cotton operatives to woollen mills and of tailoresses from the east coast to Leeds uniform factories, and in 1915 of fisherwomen and others from the east coast resorts to the Dundee jute mills to replace the married women who left to live on their separation allowances. Some women substitutes for men in clerical and commercial work and in the staple industries, and agricultural workers, especially for temporary work, were transferred in 1916 as well as the munitions workers.

Care of Transferred Workers

The work of the "local committees on women's war employment" in recruiting women from nonindustrial areas,

¹ *Labour Gazette*, March, 1917, p. 92.

meeting strangers, arranging for their lodging, and promoting "welfare" schemes, has previously been outlined. For the women transferred under their auspices the employment exchanges were able to guarantee that such arrangements had been made. All women applicants for work in national factories were required to pass a medical examination before being allowed to leave home.¹ In all cases the working conditions and living expenses to be expected were fully explained and the exchange had the power to advance railway fare.

But even with such precautions serious problems arose in transferring large numbers of women and girls long distances from home. Additional strain was involved in working among strangers. In one case where women munition workers were thrown out of work by a strike of the men, their plight was the more serious because many of them were miles from home and had not the money to return. For young girls the absence from home restraints and supervision was often harmful. One of the later reports of the Health of Munition Workers Committee of the Ministry of Munitions suggested a still more difficult situation in the following:²

The arrival of mothers in a town accompanied by quite young infants, or three or four young children, having travelled long distances, is becoming more and more common—the mother is attracted, in the absence of the father on active service, by the prospect of high wages in munition works, and brings her baby or children with her.

So pressing had the problems become that the committee, while recognizing the valuable work done by the local volunteer committees, felt that the time had arrived when the state should appoint officials to "supplement, complete or coordinate their work." In accordance with this recom-

¹*Labour Gazette*, March, 1917, p. 93.

² Great Britain Minister of Munitions, Health of Munition Workers Committee, *Memorandum No. 17*, "Health and Welfare of Munition Workers Outside the Factory," 1917.

mendation a number of "outside welfare officers" were appointed in 1917 by the Ministry of Munitions, who aided the local committees and were held responsible for completeness in their arrangements.¹

Could more women have been obtained to meet the industrial needs of the nation, or did the expansion in the number of workers come near to exhausting the supply? The question is one to which it is hard to give an accurate answer. It has been pointed out that the number of women at work increased over every three months' period up to July, 1918, though the rate of increase diminished during the fourth year of the war. It was estimated that 12,496,000 females ten years old and over were not "gainfully occupied" in July, 1918. Still later, just before the armistice, in the week ending November 8, 1918, there were 36,999 women on the "live registers" of the employment exchanges.

But on the other hand, as far back as January, 1916, officials of the exchanges stated that a third of the unfilled applications were those of women not previously employed, and another third those of women in situations who wished to change. The 12,496,000 females not at work included school girls, the old and incapacitated and housewives with small children, fully occupied by home duties. The measures taken to curtail industries not essential to the war and to conserve labor power, and the general complaints of a scarcity of labor, indicate that few additional reserves either of men or of women were available in the last months of the conflict.

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

CHAPTER VII

Training for War Work

It was with remarkably little organized training that the women took up their new lines of work and fitted into the men's places. The most extensive development of special training was to be found in the munitions industry, under the auspices of the Ministry of Munitions. An official circular of the Ministry, dated November, 1915, outlined a scheme for producing semi-skilled workers by strictly practical courses of thirty to one hundred hours' duration, intended to give the learner "machine sense" and to teach him to use some one machine tool. It was realized that this type was not in harmony with the best educational principles, but the necessities of the case demanded that nothing more should be tried than to turn out speedy and accurate workers in the shortest possible time. The comparatively small demand for women munition workers at this time was suggested by the fact that, while the classes were to be open both to men and women, it was recommended that the local authorities should be sure of employment for the latter before training them. The pupils were required to agree to work in munition factories at the end of their course.

Seventy such training centers were opened by the Ministry of Munitions in the course of the war, accommodating 6,000 to 6,500 pupils. Seven were factories utilized solely for industrial training, the smallest of which accommodated 150 and the largest from 800 to 1,000 pupils at a time. The others were smaller technical schools. The Ministry of Munitions had direct control of the training factories and appointed their staffs, but the schools were managed by the local educational authorities. According to representatives of the Ministry of Munitions, women were always trained "to order," and not "to stock."

Next, perhaps, to munitions work in frequency, though

much less extensive, were the courses offered in agriculture. In connection with the women's county committees it was arranged that women should be admitted to the county farm institutes, and short emergency courses, some of only one month's duration, were started. During the season of 1916, 390 women completed such courses. In almost every county also large landowners and farmers gave free training to some women. In 1917, 247 "training centers" were reported and 140 farms had registered for the work.¹ Such centers were attended mainly by young country girls, sixteen or seventeen years old, who in peace times would have entered domestic service. Small "hostels" or boarding homes were sometimes opened in connection with the training centers. The "Land Army" made use of these various schools, centers and practice farms for its short training courses and also arranged brief apprenticeships with employers.

Vocational courses for other lines of work were much more scattering. The London County Council carried on short emergency courses along the lines advised by the "Shops" and "Clerical Employments" committees to prepare women for retail groceries and for business. It also carried on a successful course in gardening for six months, but had to drop it because housing accommodations were not available. Classes in the shoe trade were opened at Leeds, Bristol and London, and in the manufacture of leather cases and equipment at London and Walsall. The Liverpool authorities began to teach women power machine operating and toy making, the last being a trade expected to grow in England with the cessation of German imports. A course which attracted considerable attention because it provided skilled work at comparatively high pay after two or three months' training was the class in oxy-acetylene welding managed by "Women's Service," a private organization of women for war work. A few enlightened manufacturers also set up training classes, such as, for instance, a three weeks' course for women solderers in tin

¹ *The Survey*, Sept. 15, 1917, p. 527.

box making. Women were not sent out as London bus conductors until they had several weeks of careful instruction in schools conducted by the companies. One steam railroad also provided a training course for women clerks and telegraphers. An interesting development in special training which accompanied the growth of welfare work in munition and other plants was the opening of several courses for would be "welfare supervisors" in a number of the newer universities. A fairly long list of training courses was given for London alone by the National Union of Women Workers, but examination of the list shows that only a few were special war courses, and that most of them covered professional work for the minority, and not industry or trade for the many.¹

Some employers were said to prefer entirely untrained women to those who had gone through short emergency courses, because the latter were prone to overestimate the value of their training. But on the whole the classes were believed to give a much better start to the woman who realized that they left her, after all, still a beginner. But the keen demand for workers, the high wages and high cost of living were all unfavorable to the extension of formal training schemes. Some classes were closed after the first year of war for lack of pupils. Others were discontinued when the trade schools were taken over for training in munitions work. Whatever the value of the provisions for training, it is evident that the great majority of women learned their new tasks without any such help, entirely in the workshop.

¹ National Union of Women Workers, *Occasional Paper*, May, 1916, pp. 66-68.

CHAPTER VIII

Women and the Trade Unions

The war apparently proved a great stimulus to trade unionism among women workers in England. Prior to the war, as in other industrial countries, women workers were notoriously hard to organize, and formed but a small minority of trade union membership. In 1913 nearly 4,000,000 men and only 356,000 women were said to be members of English trade unions. Aside from the fact that before the war most women were found in unskilled and low paid occupations in which union organization had made but little progress even among men, the usual explanation of the difficulty of organizing them was that most of them were young and expected to marry within a few years and to withdraw from industry. The one exception to this condition was the cotton textile trade, in which a large proportion of the women belonged to labor unions. Out of the whole number of organized women, 257,000 were in the textile trades. As already indicated, many of the unions in the skilled trades would not admit women members and were unfavorable to any extension of their work.

Two special organizations were devoted to the promotion of trade unionism among women. The older, the Women's Trade League, was made up mainly of affiliated societies and was formed with the idea that a place could be found for women in existing organizations. But in many trades where there were large numbers of women unions did not exist, or the men's unions forbade the employment of women. The National Federation of Women Workers gave its attention to these occupations. Its membership was stated to be about 20,000 in 1913.

During the war the number of women trade unionists increased at an unprecedented rate. At the end of 1914 their number was officially reported as 472,000, at the corresponding period in 1915 as 521,000, and at the end of 1916, 1917 and 1918, respectively, as approximately 650,000, 930,000 and

1,224,000—an increase of nearly 160 per cent between 1914 and 1918. During the same period the number of male trade unionists increased about 45 per cent.¹ Out of 1,220 craft and trade unions, 837 had only male members, 347 included both men and women and 36 were composed wholly of women. The latter included some 95,000 members, and the largest of them were the National Federation of Women Workers and the National Federation of Women Teachers.

A report by the factory inspectors enumerated ten important trades, including several of the textiles, boots and shoes, furniture, cutlery, fancy leather goods and tobacco, in which the number of women unionists was 365 per cent greater in 1914 than in 1917, rising from 41,778 in 1914 to 152,814 in 1917. A small but interesting union was that made up of women oxy-acetylene welders, a skilled trade which women had entered for the first time during the war. Its membership was mainly made up of educated women who were active in securing "equal pay" for themselves. Detailed figures for seven individual trades are as follows:

NUMBER OF WOMEN TRADE UNION MEMBERS²

Industry	1914	1917
Woolen	7,695	35,137
Hosiery	3,657	17,217
Textile bleaching, dyeing, finishing.....	7,260	22,527
Boot and Shoe	10,165	.....
Tobacco	1,992	2,225
Solid leather case and fancy leather.....	negligible	1,372
Furniture	300	15,236

Another development of trade unionism among women during the war was that for the first time in the so-called "mixed unions," composed of both men and women members, a large number of women were elected as branch secretaries and local officials. This change was forced by the withdrawal of men for military service, but the new officers were reported to be "as a whole extremely satisfactory."³

¹ Great Britain Ministry of Labour. *Labour Gazette*, February, 1920, p. 60.

² Great Britain, Home Office. *Substitution of Women in Nonmunition Factories*, pp. 26-50.

³ Quoted from G. D. H. Cole in *United States Monthly Labor Review*, June, 1919, p. 1852.

It is generally believed that the chief reason for the growth of trade unionism among women during the war was the increase in their wages, together with the resentment aroused at the same time by frequent failure to achieve "equal pay for equal work." Other causes sometimes mentioned cover many of the principal effects of the war on women workers. Women's customary docility was said to be reduced by the absence of their men folk on military service, forcing them more often to assume the initiative. The public recognition of the value of women's work likewise increased their self-confidence. Contact with the stern realities of war was believed to have reduced the irresponsibility of the younger workers and the petty caste feeling frequent among women of all ages. The shortage in the supply of workers strengthened labor's general position, and government acknowledgment of the importance of trade unionism also weakened opposition by employers.

But in spite of the growth in unionism some complaints were made that it was even harder than usual to interest certain of the new workers in organization because they were so consciously working only for the duration of the war. Women have been found who believed in the value of the unions sufficiently to keep up the dues of the men whose places they were taking, but who refused to join themselves.

The principal agency concerned with unionizing women munition workers during the war period was the National Federation of Women Workers, which is reported to have more than tripled its membership during the war.¹ Under its energetic secretary, Miss Mary Macarthur, it was credited with securing legislation and official action in behalf of the women war workers, in addition to its organizing work. Its breezy little monthly paper, *The Woman Worker*, which sheds much light on the point of view of the woman trade unionist toward events of the day, was started in January, 1916.

In its task of organizing munition girls, the Federation

¹ Paul U. Kellogg and Arthur Gleason, *British Labor and the War*, 1919, p. 141.

of Women Workers had the advantage of an informal alliance with the Amalgamated Society of Engineers. In May, 1915, this strong union rejected a plan to admit women workers on the ground that it would prevent excluding them from the trade after the war. But the following month the A. S. E. arranged with the federation to set up joint committees to fix wage scales for women and to support the Federation in enforcing the demands jointly agreed upon. Somewhat contradictory reports were received on the results of this action. The federation praised the society's help highly, saying that several new branches were "literally made by A. S. E. men,"¹ though a writer in the *Women's Industrial News* stated that the one or two cases of A. S. E. action in behalf of the women "have had no pressure behind them," and secured only "negligible" results.²

The substitution question, it has been shown, emphasized the unfriendly attitude of many unions in the skilled crafts toward the woman worker. Some unions, for instance the two covering tramway employment, flatly voted down the admission of women without making any such substitute arrangements for them as did the A. S. E. In a number of cases, even where they were forced to permit "dilution," they seem to have retained an attitude of hostility or suspicion. Numerous individual instances of this kind may be found in the pages of the *Dilution Bulletins*. In some cases tools were purposely set wrong or were not supplied at all, and unfavorable reports of the women's work were made without substantial basis.

Other unions—apparently on the whole the newer and more radical bodies—did let in the women workers. The waiters' union even opened a class to train them to replace the interned enemy aliens. The steam railway organization admitted them, though not exactly on the same terms as men. The women substitutes naturally appear to have had a "smoother path" under these circumstances than where the policy of exclusion was maintained.

¹ *The Woman Worker*, January, 1916, p. 13.

² *Women's Industrial News*, April, 1916, p. 19.

Since the armistice there has been a decline in the number of women trade unionists, and it is doubtful if the war level will again be reached for some time to come. There is, however, a greatly increased interest in trade unionism among English working women, which will undoubtedly be maintained under the changed conditions of peace and reconstruction. The movement is, of course, closely connected with the way the "dilution" problem is settled. This will be discussed in the chapter dealing with the situation during the first few months after the armistice.

CHAPTER IX

Control of Women Workers Under the Munitions Act

The munitions act set up an unprecedented degree of governmental control over the workers through three different methods—the prohibition of strikes, a restriction of the right of the individual to leave work and the establishment of special “Munition Tribunals” to regulate the leaving of work and to punish breaches of workshop discipline.

Prohibition of Strikes and Lockouts

The prohibition of strikes and lockouts was the most inclusive of the three. It applied not only to all “munitions work” as defined by the act,¹ but also to all work done “in or in connection with” munitions work, and to any other work to which the act should be applied by proclamation on the ground that stoppage of work would be “directly or indirectly prejudicial” to “the manufacture, transport or supply of munitions of war.”² Strikes or lockouts were forbidden unless a dispute had been referred to the Board of Trade, which for twenty-one days had taken no action toward settling it. Further provisions for a more prompt settlement of disputes were included in the second amending act, in August, 1917. The penalty for violations by either employer or employe was a fine which might be as high as £5 (about \$24) per man per day. Disputes might be referred by the Board of Trade for settlement to any one of several subordinate bodies. Ordinarily the one used for men’s work was the “Committee on Production in Engineering and Shipbuilding.”³ After the passage of the first amending act⁴ in January, 1916, the “Special Arbitration Tribunal” authorized by it to advise regarding conditions of

¹ *Vide* p. 55.

² Munitions of War Act, 5 and 6 Geo. 5, Ch. 54, Part I, 2 (1).

³ *Vide* p. 51.

⁴ 5 and 6 Geo. 5, Ch. 99.

women's work was the body generally chosen by the Minister of Munitions to settle disputes involving women.

The clause prohibiting strikes was adopted undoubtedly as the result of the strikes of "engineers" on the Clyde early in 1915, and other disturbances on war work, which followed after the "industrial truce" of the first few months of the war had once been broken. This in turn apparently occurred on account of the rising cost of living and the failure at the time to increase wages proportionately or to limit profits. The prohibition was roundly denounced by the labor and radical groups as having "given rise to more strikes than it has prevented," and strikes did, indeed, increase proportionately faster after the passage of the act. For several months beginning with May, 1917, the unrest was so serious that official committees of inquiry were appointed.

No figures are at hand to show the extent of the strikes in which women participated. Though comparatively infrequent among women workers, yet even there they occurred in defiance of the law. *The Woman Worker* recorded a case at a shell filling factory, where because a canteen attendant was, as they thought, unjustly dismissed, the girls refused to go back to work after the noon hour, and began to throw the china and food about in the canteen.²

There was some feeling among women as well as men war workers that following a strike government officials quickly adjusted grievances which had previously gone unremedied for months. Yet, even if the strike prohibition was not a complete success, officials believed that it operated to reduce the number of minor disputes.

"Leaving Certificates"

After the keen demand for labor arose in the industry, the "labor turnover" of experienced workers in munition factories reached abnormal proportions, causing loss of time and often of skill. The frequent changes and the resulting

¹ *Women's Trade Union Review*, July, 1917, p. 1.

² *The Woman Worker*, February, 1917, p. 11.

interruption to production became the subject of serious complaints from employers.

To diminish this "labor turnover" a system of "leaving certificates" or "clearance cards" was put into effect. No person leaving munitions work could be given work by another employer for six weeks unless he or she had a "leaving certificate." The certificate was required to be granted by the employer on discharging the worker, and might be granted by a Munitions Tribunal if "unreasonably" withheld. This was the only condition inserted in the original act to prevent a certificate from being wrongfully withheld. The giving of employment contrary to these provisions, or the falsifying of a "leaving certificate," were serious offenses under the act, punishable by a maximum fine of £50 (about \$240). "Leaving certificates" might be required "in or in connection with munitions work" in any kind of establishments to which the regulations were applied by order of the Ministry of Munitions. In July, 1915, an order was issued requiring them in all engineering, shipbuilding, ammunition, arms and explosive establishments and establishments producing substances required for such production. In May, 1916, all "controlled establishments" not previously included, and certain places providing electric light or power for munitions work, were added to the list.

The leaving certificate requirements were said to be the only feature of the munitions acts approved by employers, but no part was more unpopular with the workers. It was charged that skilled workers were tied to unskilled jobs and thus rendered powerless to move to better wages and working conditions. The following quotation from *The Woman Worker*¹ illustrates the labor point of view:

The first Munitions Act came quietly—on tip-toe, like a thief in the night, and not one woman worker in a thousand knew of its coming.

Their shackles were riveted while they slept. . . .

The foreman's reply to the complaining one is no longer: "If you don't like it you can leave it." She can't.

¹ January, 1916, pp. 5-7.

If she tries, she will find that no other employer will be allowed to engage her, and unless she can persuade a Munitions Court to grant a leaving certificate, six weeks' idleness must be her portion. And we know what that means to many a woman worker. Long before the six weeks are up, her little treasures, if she has any, are gone and God help her then.

. . . One great danger of the new conditions is that sweating and bad conditions may be stereotyped.

The other day a munition worker, who was being paid 12s. weekly, had a chance of doing the same work for another employer at 1 pound weekly, but the Court refused her permission to make the change. And thus we have a concrete case of the State turning the lock in the door of the sweaters' den.

Some people hold very strongly that these leaving certificate clauses of the Munitions Act are altogether unnecessary. They hamper and irritate men and women alike, and so far from accelerating output, may actually diminish it. Under the Defence of the Realm Act, it is already illegal for employers to incite munition workers to change their employment, and that should have been sufficient.

The stringency of the leaving certificate clauses in their original form was indicated by the fact that in the munitions act amendment of January, 1916, several conditions were added making them more favorable to the workers. If an employer refused a certificate when a worker was dismissed, or failed to give a week's notice or a week's pay in lieu of notice, except on temporary work, the tribunal could now make him pay as much as £5 (about \$24) for the loss of time, unless it appeared that the worker was guilty of misconduct to secure dismissal. A number of other conditions under which a certificate must be granted were laid down by the amending act. They included failure to provide employment for three or more days, failure to pay standard wage rates, behavior of the employer or his agent toward the worker in a way to justify his leaving, end of apprenticeship and existence of another opening where the worker could be used "with greater advantage to the national in-

terest." Even *The Woman Worker* admitted of the amendment act: "Certainly in many ways it is an improvement over the old one. The workers have new rights; and if they are strong enough and clever enough to take advantage of them much can be done."

Difficulties still arose, however. Though on some government contracts, such as clothing, the system was not in force, it was often believed that the cards were required on every form of government work. They were indeed necessary in so many factories that employers hesitated to take workers without them, which made it hard to secure work in a munitions plant for the first time. Often the workers did not know their rights under the act to secure certificates or damages from the tribunals under certain conditions. It was finally decided that dismissal because of trade union membership was illegal, "tending to restrict output." By the help of the Federation of Women Workers three girls dismissed for joining the federation secured compensation for their dismissal from the local Munitions Tribunal, and the firm was finally fined for the act by the central court.

Nevertheless, in spite of all concessions, which officials of the Ministry believed had removed the admitted injustices of the act in its original form, the certificate system continued to cause much irritation among the workers. The official commissions to investigate the industrial unrest prevailing in the summer of 1917 named the operation of the system among its chief causes. It was because of the workers' protests that the second amendment to the munitions act, passed August 21, 1917, gave the Ministry of Munitions power to abolish the "leaving certificate" system if it thought it could be done "consistently with the national interest." Trade union leaders informed the government that they could not keep their members in line unless the system was given up. The Ministry issued an order abolishing the certificate after October 15, 1917.¹ Workers were merely required to remain on some kind of war work, except by permission of the Ministry, and at least a week's

¹ *Labour Gazette*, September, 1917, p. 314.

notice or a week's wages was necessary before leaving. No report was made as to how the change worked. It remained in force until two days before the armistice, when an order allowed employes to shift from munitions to nonwar work.

Munitions Tribunals

In addition to appeals for leaving certificates, the Munitions Tribunals dealt with breaches of workshop discipline, and with cases of disobedience to the instructions of the Ministry of Munitions. These courts were set up throughout the country. Each consisted of a chairman, chosen by the Ministry of Munitions, and four or more "assessors," taken from a panel, half of whom represented employers and half employes. The "assessors" served in rotation, a session at a time. There were two classes of tribunals, "general," dealing with all offenses, and "local," with those for which the penalty was less than £5 (about \$24). The latter handled the great majority of the cases, settling 3,732 between July and December, 1916, whereas the general tribunals took up only 182. Under the original munitions act the general tribunals had the power to imprison for nonpayment of fines, but this aroused such resentment among the workers that it was taken away by the first amendment act.

The Munitions Tribunals, like leaving certificates, were a source of much annoyance to working women. Complaints were made that the representatives of the Ministry of Munitions had no understanding of the labor point of view, so that there was always a majority against the employes. Instances were given in which the tribunals refused certificates to a woman receiving 10s. (\$2.40) a week, though she had a chance to double her wages, and to girls working seventy to eighty hours weekly several miles from home, while a factory having eight hour shifts had opened close at hand. Fines, unlike those imposed by employers, did not have to be "reasonable" in the legal sense of the word, and their size was not known to the workers beforehand. An employe summoned before a tribunal lost at least a half day's and sometimes a full day's work, or several hours of

sleep if a night worker. Previous to January, 1916, women workers might be obliged to appear before a tribunal composed entirely of men. But by the amending act, as the "direct outcome of a scandalous case" in which three girls who had left their jobs because of "gross insult" were obliged to explain the circumstances with no woman present,¹ it was required that at least one of the assessors representing the employes should be a woman in every case in which women were involved.

Whatever the justice of the employes' contentions, certainly the decisions rendered by the tribunals during their first few months of activity, for which alone figures are available, were generally unfavorable to the workers. From the beginning of their work to November 27, 1916, 814 cases involving 3,672 persons were heard against employes. Convictions against 2,423 of these were secured, and fines amounting to £2,235 were imposed. Against employers there were but eighty-six cases involving ninety-four persons, fifty-six persons convicted, and a total in fines of £290. Out of 3,014 requests for leaving certificates, only 782 were granted.

¹ *The Woman Worker*, January, 1916, p. 7.

CHAPTER X

Wages

Perhaps no one factor in the working conditions of women is more vital to their welfare than the wages they receive. A study of the changes in wages brought about by the war is therefore of special importance. Ordinarily women seldom do precisely the same work as men, and they ordinarily receive wages not more than half as high. Did the difference continue when the women took up men's jobs? The fear that the women would lower the rates established by the men's trade unions was, as we have seen, probably the main reason for the opposition of male trade unionists to "dilution." In what measure was the women's demand for "equal pay for equal work" attained? The replacement of enlisted men by women and the extensive use of women in the manufacture of munitions invested women's work as never before with the character of a national service, and this also led to a demand for more adequate wage standards. In considering the subject of wages it should always be kept in mind that, roughly speaking, at the beginning of the war wages and prices were about half as high in England as in the United States, though the difference in prices was not so great during 1917 and 1918.

Governmental Wage Regulation in the Munitions Industry

All three of the factors enumerated above—namely, public recognition of their services to the state, the women's demand for "equal pay for equal work" and the effort of the men's unions to maintain wage standards—seem to have played a part in forcing governmental regulation of the wages of women workers. Munitions work was of course the storm center of disputes throughout the war.

Many complaints were made of the inadequate wages paid the first women to be employed on munitions work. An

official report¹ admits that women munitions makers taking up men's jobs in the industry before the Treasury Agreement permitting substitution was made in March, 1915, were paid only 2½d. (5 cents) to 4d. (8 cents) an hour. Twelve to fifteen shillings weekly (\$2.88-\$3.60) was said to be the usual pay for women in Manchester and on the Clyde. In October, 1914, a leading armament firm hired a number of women to take the place of skilled and semi-skilled men in shell making at 15 per cent lower wages than were paid the men.²

The first attempt to secure equal pay for the women who replaced men was made in February, 1915, through the "Shells and Fuses Agreement" of the "Committee on Production," which provided for equal pay on skilled work. But most of the operations on which women were being substituted were unskilled or semi-skilled and on the latter the employers' federation ordered the usual women's rates. The Amalgamated Society of Engineers, which had assented to the agreement, now awoke to conditions and protested, but in the words of two students of British labor during the war, "it was too late." They "never again caught up with the situation. Multitudes of women were poured into the engineering trades at a low wage scale."³

The next effort of the trade unionists was the securing of a clause in the Treasury Agreement in March to the effect that "the relaxation of existing demarcation restrictions or admission of semi-skilled or female labor shall not affect adversely the rates paid for the job." Miss Sylvia Pankhurst immediately sent an inquiry to Lloyd George, asking for an interpretation of this somewhat ambiguous statement. She received the reply:

Dear Miss Pankhurst: The words which you quote would guarantee that women undertaking the work of

¹ Great Britain, *Report of the War Cabinet Committee on Women in Industry*, April, 1919, p. 110.

² Barbara Drake, *Women in the Engineering Trades*, p. 14.

³ Paul U. Kellogg and Arthur Gleason, *British Labor and the War*, p. 152.

men would get the same piece-rates as men were receiving before the date of this agreement. That, of course, means that if the women turn out the same quantity of work as men employed on the same job, they will receive exactly the same pay.

Yours sincerely,

(Signed) D. LLOYD GEORGE.

She then asked if they were to receive the same war bonuses and increases as men, and what was to be paid women time workers; but her second letter was not answered.

The complaints and agitation continued. Mrs. Pankhurst escorted a procession of women to interview the Minister of Munitions about wages on munitions work. Examples of sweated wages were cited in Parliament. In reply to this deputation, Lloyd George announced his policy in regard to the payment of women munition workers as follows:

The government will see that there is no sweated labor. For some time women will be unskilled and untrained; they can not turn out as much work as the men who have been at it for some time, so we can not give the full rate of wages. Whatever these wages are, they should be fair, and there should be a fixed minimum, and we should not utilize the services of women in order to get cheaper labor.

Finally, in October, 1915, the Ministry sent out to all "controlled establishments" a circular of recommendations for wage rates for women "on men's work," drawn up by a Wages Subcommittee of the Central Labor Supply Committee, composed of a woman trade unionist and three representatives of the engineering trade. The circular, which is always referred to as "L2," fixed a prescribed (not a minimum) time rate of £1 (\$4.80) weekly, and the same piece rates for women as for men. The committee had urged that the time rate should be a minimum but to this the Ministry was not willing to agree. A special paragraph emphasized that women doing skilled men's work should be paid the men's rate. The Ministry had no power to enforce

the recommendations, however, and they were by no means universally observed. Opinions as to their efficacy vary from the official view that "National factories were instructed to adopt these provisions, and many, though not all, private firms put them into force."¹ to the radical criticism that the "recommendations might have been of value had there been any means of enforcing them. As it was, the circular was merely an expression of opinion which [tended to lull the public] into a state of security unjustified by facts."² *The Woman Worker* even went so far as to say that "in January last [1916], a very important firm stated that they were the only firm in the United Kingdom that were paying wages in accordance with Mr. Lloyd George's circular."³

In the fall of 1915 the trade unionists entered on an active campaign to give the Ministry power to fix wages for women and unskilled and semi-skilled men, the men's unions fearing the permanent lowering of their standard rates, and the women's organizations being perhaps more concerned in behalf of the underpaid women themselves. In January, 1916, the men's unions demanded, as the price of their continued help in promoting "dilution," that the provisions of "L2" should be made compulsory. By the amending act of January 27, 1916, the Ministry of Munitions were empowered to fix wage rates for all females and for semi-skilled men on skilled work in munition plants where clearance cards were required. The National Federation of Women Workers was active in securing the change, and its magazine describes the struggle in its usual picturesque style.⁴

Wage Fixing for "Women on Men's Work"

In a month the provisions of Circular L2 were made compulsory.⁵ The directions were "on the basis of setting up

¹ United States Bureau of Labor Statistics, *Monthly Review*, August, 1917, p. 123.

² *Women's Industrial News*, April, 1916, p. 15.

³ *The Woman Worker*, April, 1916, p. 9.

⁴ *The Woman Worker*, January, 1916, p. 7.

⁵ Great Britain, *Statutory Rules and Orders*, No. 181, February 28, 1916.

of the machines being otherwise provided for. They are strictly confined to the war period." Women time workers of eighteen years and over on men's work were to be paid a pound (\$4.80) for a week of the usual hours worked by men in engineering. Rates for piece work and for work ordinarily done by "fully skilled" men were to be the same as those customarily paid men, but women were not to be put on any form of piece work until "sufficiently qualified." The principle of "equal pay for equal work" was further laid down specifically in the following clause: "The principle upon which the directions proceed is that on systems of payment by results—equal payment shall be made to women as to men for an equal amount of work done." Further safeguards of the rates included giving women the same overtime, night shift, Sunday and holiday allowances as the men, and providing that piece rates should not be cut. Women were to be paid at the rate of 15s. a week (\$3.60) for time lost by "air raids" or other causes beyond the workers' control. The order was applied only to controlled establishments in engineering and allied industries on the ground that it was designed primarily to meet conditions in those trades.¹

Wage Fixing for "Women Not on Men's Work"

The regulation of wages for women doing men's work covered only part of the munition workers, however. As *The Woman Worker* remarked, "What about the women who are doing important work not recognized as men's work? There are many more of these; they are, generally speaking, much worse off; they are less able to protect themselves; and, therefore, this claim on the Minister to fulfill his pledged word is even stronger than for the others."² The Wages Subcommittee which drafted L2 had

¹ The list of establishments to which the wage orders are applied was never published, as it was considered "contrary to the national interest." Information as to their scope comes mainly from an article in the United States Bureau of Labor Statistics *Monthly Review*, "Women's Wages in Munition Factories in Great Britain," August, 1917, for which many facts were supplied by an administrative officer of the Ministry of Munitions.

² *The Woman Worker*, April, 1916, p. 9.

drawn up wage recommendations for them in November and December, 1915, but no action was taken on the recommendations. The standard of wages among this group of women at the time is illustrated by the rates fixed in an important trade agreement reached in November, 1915, and covering the whole Midlands area. Its weekly rate for an adult woman was 16s. (\$3.84). In March, 1916, under powers given the Ministry of Munitions by the munitions amendment act, a "Special Arbitration Tribunal" was established to settle disputes regarding women's wages referred to it under the anti-strike clauses of the munitions acts, and to advise the Minister on wage awards for women munition makers. The tribunal consisted of a secretary and half a dozen members, two of whom were women. In Miss Susan Lawrence it had a woman long active in behalf of the women workers, and in Mr. Ernest Aves an expert on minimum wage regulation. The tribunal is said to have been "perhaps more important and successful than was expected."¹ The National Federation of Women Workers at once brought before it several cases dealing with the wages of munition workers in individual factories on "work not recognized as men's work." In general the awards made in these cases gave time workers about 4½d. (9 cents) an hour, and piece workers a guaranteed minimum of about 4d. (8 cents), with the provision that the piece rates should yield the ordinary worker at least a third more.

The Minister of Munitions then asked the special tribunal for recommendations as to a general wage award for females on "work not recognized as men's work." Because precedent and data were lacking it was said to be extremely difficult to fix these rates. But finally the tribunal made a recommendation along the lines of its special awards, which was issued as an order on July 6, 1916.² Four pence (8 cents) an hour was guaranteed piece workers of eighteen or over and adult time workers were given 4½d. (9 cents). A half penny an hour additional was given for work in the

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

² Great Britain, *Statutory Rules and Orders*, No. 447, July 6, 1916.

danger zone, and special rates might be fixed for dangerous or unhealthy processes. Special rates could be set for workers of special ability. The rates were expressly limited to the war period, "depending on exceptional circumstances arising from the present war." The award was applied to about 1,400 arms, ammunition, explosives and shipbuilding firms, covering these trades with a few exceptions of firms in the rural districts.

The effect of this order was to raise wages in firms where women had always been employed. Employers complained of difficulties where only part of their women employees were on government work, and of failure to provide special rates for the training period. On the other hand, its provisions aroused a storm of criticism from women trade unionists, who charged that the fixing of standard rather than minimum rates was in contravention of Lloyd George's pledges. The official retort to this was that "the only undertaking . . . by the Minister . . . related to the wages of women on men's work."¹ No special allowances for overtime, night and Sunday work or for time lost by no fault of the workers were included. The piece work rates were not arranged so that the average worker could earn a higher rate. Only munition work in the narrow sense was covered, and important war industries where leaving certificates were required were omitted, such as the chemical, rubber, cable and miscellaneous metal trades. The Women's Trade Union League and the National Federation of Women Workers immediately organized a deputation of protest to the Ministry. As a result, a revision of the award was issued in September, which restored the extra payments for overtime and night work, and stated that unless a special exemption was granted by the Ministry, piece rates must be such as to yield a worker of "ordinary ability" a third more than her time rate.²

¹ United States Bureau of Labor Statistics, "Wages of Women in Munition Factories in Great Britain," *Monthly Review*, August, 1917, p. 123.

² Great Britain, *Statutory Rules and Orders*, No. 618, September 13, 1916.

Revision of Award for "Women on Men's Work"

By this time also, according to the official view "it had become increasingly apparent . . . that the provisions of Circular L2 . . . were too rigid." No time rates between the £1 a week and the skilled men's rate were allowed, and women doing especially laborious or responsible work could not receive special pay.

A violent controversy had likewise been going on for months as to the payment of women doing part of the work of skilled men. The unions claimed that the understanding was that women should receive the skilled men's rate no matter how small a part of the work they did; the employers said that such an arrangement was entirely unreasonable. The Central Munitions Labour Supply Committee, the author of the original "L2," was called on for advice. Recommendations acceptable both to it and to the Special Arbitration Tribunal were finally worked out and issued as an order January 1, 1917.¹ Even the trade unionists acknowledged that an improvement had been made, and that the standard time rate was less likely to be used as a maximum. The £1 time rate was payable for a working week of forty-eight hours. Any overtime up to fifty-four hours was payable at 6d. (12 cents) an hour, and beyond that at men's rates. Special rates, not laid down in the order, might be fixed for women time workers on "work customarily done by semi-skilled men," on specially laborious or responsible work, or where any "special circumstances" existed. Under this clause a number of appeals were carried to the Special Arbitration Tribunal, and special awards made. The clause giving women on skilled work the same rates as men was reenacted, but it was stated that "a further order on this subject will shortly be issued." This was done on January 24.²

The compromise adopted set off a special class of women who did only part of a skilled man's work, according to a plan worked out by the Dilution Commission in the Clyde

¹ Great Britain, *Statutory Rules and Orders*; No. 888, January 1, 1917.

² *Ibid.*, No. 49, January 24, 1917.

district nearly a year before. In this class were to be placed all women who did not do the "customary setting up" of the machines, or who required supervision beyond that usual for the men. Such women were to serve a three months' "probationary period," receiving the specified time rate for four weeks, and then rising by equal weekly increments to the skilled men's rate at the end of the thirteenth week. But, by special permission of the Ministry of Munitions, a maximum of 10 per cent of the skilled men's rate might be deducted to meet the additional cost of extra setting up and extra supervision. The time rate, which remained £1 for a forty-eight hour week was to be the minimum in all cases, however. A woman doing all the work of a skilled man was still to be paid his rate. Other clauses relating to overtime, cutting of piece rates, allowances for lost time and so on, were the same as in previous orders for "women on men's work." The order was applied to some 3,585 "controlled establishments" in arms, ammunition, ordnance, various other forms of "engineering" and miscellaneous metal trades.

Extension of Award Covering "Work Not Recognized as Men's Work"

Meanwhile, in October, 1916, "munitions" establishments not included in the outstanding wage order for women and girls on "work not recognized as men's work" were notified that they would shortly be covered unless they could show reasons to the contrary. Many protests from employers resulted, but early in January the former order was reissued with slight modifications and made applicable to a wider range of establishments.¹ It now covered about 3,875 "controlled establishments," including other forms of engineering, miscellaneous metal trades, and chemicals, asbestos, rubber and mica, as well as munitions work in the narrow sense of the term. The chief modifications were a probationary period (one month for adult women) during which a half penny an hour (1 cent) less might be paid,

¹ Great Britain, *Statutory Rules and Orders*, No. 9, January 6, 1917.

and permission to apply for a special rate for girls in warehouses as distinct from factories. A companion order fixed rates a farthing an hour lower for about fifty factories in rural districts.¹

Wage Awards for Women Woodworkers

Besides "men's" and "women's" work, a third set of governmental wage awards covered women in the woodwork industry where large numbers were employed, especially on woodwork for aeroplanes. The trade unions had agitated the question vigorously on the basis of maintaining their standard rates. But the administration felt that "the aircraft industry has extended enormously since the war began . . . to legislate for women's wages on the customs existing prior to the war might unduly hamper the development of the trade." The wages fixed in September, 1916, on the basis of recommendations by the Special Arbitration Tribunal were 5d. (10 cents) an hour for experienced adult time workers, and a guarantee of 4½d. (9 cents) for piece workers.² These rates were about ½d. (1 cent) an hour higher than those for women not on men's work, thus approximating the "men's work" awards. Extra rates were payable for overtime, and the various precautionary clauses of the earlier awards were repeated, except that no recognition of the equal pay principle appeared. The order covered some ninety establishments. Early in 1917 the Special Arbitration Tribunal was asked to advise on rates for woodwork in general. The tribunal found it difficult to preserve the scheme of the men's rates in the trade, and finally drew up a concise interim order with minimum rates similar to those for ordinary processes on woodwork for aeroplanes.³

General Increases Based on Cost of Living Changes

A new bone of contention appeared in the battle to maintain men's wage standards for women munition workers

¹ *Ibid.*, No. 10, January 6, 1917.

² *Ibid.*, No. 621, September 12, 1916.

³ *Ibid.*, No. 313, March 30, 1917.

when the rising cost of living brought the men in the engineering and shipbuilding trades a general advance of 5s. weekly from April 1, 1917, with the promise that further advances of this kind would be made three times a year if necessary. The Ministry of Munitions held that the terms of the award were such¹ that it did not apply to women's wages. But under pressure from the Federation of Women Workers the Ministry, on April 16, announced the advancement of the standard time rate for women replacing men from 20s. (\$4.80) to 24s. (\$5.76) weekly,² to go into effect from April 8. On work "not recognized as men's work" the gain for adult women was 1d. (2 cents) an hour for time work and $\frac{3}{4}$ d. (1½ cents) for piece work.³ The advance was likewise applied to woodworking processes.⁴

Following another war bonus of 3s. (72 cents) weekly to men workers, awarded by the Committee on Production, the women's Special Arbitration Tribunal granted adult women a second general advance of 2s. 6d. (60 cents) in August, 1917, with half as much to girls under eighteen.⁵ This applied to all "controlled" establishments, having a far wider range than any previous wage order. The powers of the Ministry over women's wages had been extended by the amendment to the munitions act which allowed "leaving certificates" to be abolished. If this was done, as it was, the Ministry might fix wages in any trade in or in connection with munitions work. Another important extension of the wage awards about this time was their application to Ireland, where wage scales had been very low. A third and a fourth general advance, the first⁶ of 3s. 6d. and the second⁷ of 5s. weekly for adult women, were granted on December

¹ The men's cost of living advances were "not otherwise to apply or affect present time rates, premium bonus rates or piecework prices." According to the Statutory Order in force women employed on skilled men's work were to receive the time rate of the men they replaced.

² Great Britain, *Statutory Rules and Orders*, No. 489, April 16, 1917.

³ *Ibid.*, No. 492, April 16, 1917.

⁴ *Ibid.*, No. 491, April 16, 1917.

⁵ *Ibid.*, No. 781, August 16, 1917.

⁶ *Ibid.*, No. 31, January 14, 1918.

⁷ *Ibid.*, No. 1073, August 28, 1918.

15, 1917, and September 1, 1918, respectively. The four general advances amounted to a total of 15s. weekly (\$3.60), which brought the standard time rate for women munition workers on men's work up to 35s. (\$8.40) weekly at the end of the war. But meanwhile the men workers had been granted still larger bonuses.

In addition, hundreds of special cases continued to be brought before the Special Arbitration Tribunal, which generally granted at least part of the wage increases asked for, but avoided any general declaration of principles when the equal pay issue was raised. Another development of 1918 was the issuance of a "Consolidated Order," the result of agitation by the women's unions begun eleven months earlier, which unified the various wage awards and made some improvements and extensions.¹ Perhaps the most important change was the alteration of the standard rates for women not on men's work into minimum rates, so that women engaged in occupations of special skill, danger and the like could claim extra payments. The order applied to over 8,000 firms. Delay in issuing it was officially ascribed to the reorganization of the Special Arbitration Tribunal, which prevented consideration of the case till December, 1917.

Criticism of Governmental Wage Fixing in Munitions Work

The governmental policies outlined above by which wages were fixed for women munition workers were the subject of some sharp criticisms from labor and radical groups and friends of the women workers. The most fundamental of these criticisms was that the government failed to fulfill the pledge regarding the wages of women substitutes made in the "Treasury Agreement" and reaffirmed in the first munitions act.² The question is considered at length in the report of the British War Cabinet Committee on Women in Industry.³ Mrs. Sidney Webb, in a minority re-

¹ Great Britain, *Statutory Rules and Orders*, No. 546, May 8, 1918.

² *Vide* pp. 52-53, for text of clauses in question.

³ Pp. 197-217 and 308-334. .

port, holds that the pledge applied to all forms of work and all forms of payment, and charges that there were two main violations. It was not applied to time workers who took the places of unskilled or semi-skilled men, and women were not allowed the same general cost of living advances as men. The majority denied that the agreement was intended to apply to equal pay in either of these cases, though they felt that the wording of the agreement was not satisfactory. Without attempting to give a verdict in the dispute, it may be said that the partial failure to apply the equal pay principle did cause much unrest among both men and women trade unionists, who felt that the men's rates were menaced and the women unfairly treated.

Other points of criticism included the limited application of the wage orders, the fixing of "standard," rather than "minimum" wages, and an alleged failure to enforce the orders. The apparent tendency of the government to act only under pressure was perhaps a still more general cause of irritation. It was not until six months after the passage of the first munitions act, following much trade union agitation, that legislation was asked for which would allow the government to make effective its pledge of "equal pay" for "dilutees." Even then the first wage orders did not cover all munitions work and not even all controlled establishments. Under the wider application of the "leaving certificate clauses" it was said that some firms could continue to pay sweated wages while tying the workers to their jobs. But succeeding orders were more and more extended and until the power was expressly granted in August, 1917, the Ministry did not believe it could fix wages outside controlled establishments.

Most of the rates, it will have been noticed, were not "minimum," but "standard" wages, to be paid only in case no special awards were made. This policy was criticized because it was claimed that the standard rates almost always became the maximum. But the Ministry believed that "experience justifies the adoption" of a standard rate, which checked constant agitation for changes.

It was also charged that the orders were frequently not

obeyed and that piece rates were illegally cut. In the spring and summer of 1917, indeed, investigating officers of the Ministry of Munitions were ordered to visit all establishments covered by the awards and schedule the actual wages paid. "In many hundreds of cases the smaller firms were found not to pay the wages ordered."¹ Orders to violators to pay the legal wages with arrears increased the hostility of the contractors to the government program of wage fixing. Finally, in order to overcome their opposition, it was arranged that they should be reimbursed for all "extra and unforeseen wage cost entailed by government action." Under this arrangement it would seem as if there was little if any incentive not to pay the legal scale of wages. In April, 1918, at which time the standard time rate for women substitutes was 30s. (\$7.20) weekly, weekly rates for women in typical projectile factories were 32s. 8d. (\$7.84), and actual earnings 42s. 4d. (\$10.16), while in a similar group of shell factories rates were 34s. 8d. (\$8.32), and earnings 56s. 8d. (\$13.60). These wages, while well above the legal standard wage, were far from the £3, £4 and £5 weekly popularly ascribed to the women munition maker and in reality earned only by the exceptional piece worker.

In estimating these or any other wage increases, the greatly augmented cost of living must not be overlooked. The rise was estimated at 40 per cent in February, 1916, when the first compulsory award was made, 70 per cent in April, 1917, at the time of the first general increase, and 95 per cent in September, 1918, when the last war time advance was granted. Rents were held to their former levels by a law which forbade raising them unless structural improvements were made, but fuel, shoes and clothing were all higher, the tax burden was greater and food had more than doubled in price. On this basis the rate set for time workers on "men's work" in munitions in February, 1916, £1, was equivalent to only 14s. 3d., before the war. The 24s. of April, 1917, corresponded to 14s. 2d., while 35s., the September, 1918, award, amounted to about

¹ Great Britain, *Report of the War Cabinet Committee on Women in Industry*, April, 1919, p. 119.

17s. 6d. at prewar values. However, it must likewise be remembered that once the awards were really in full force, actual earnings were apparently considerably above standard rates.

All in all it would seem that the Ministry of Munitions was justified in its claim that, "when consideration is given to the diverse nature of the trades, the absence of any data on which the department could work when it first took up the question of regulating women's wages, the absolute novelty of wage regulation by a government department, the extreme urgency of the many difficulties which arose, the reluctant attitude of employers and the interdependence of commercial work and munitions work, the department feels justified in claiming a very considerable adjustment in the matter of women's wages."¹ Even Mrs. Webb, in criticising the government attitude toward its wage pledges, admits that the Ministry of Munitions took the agreement "more seriously than other government departments." The War Cabinet report sums the results of government activity by showing that "the actual average of women's wages in the metal and munition trades as a result of the orders was increased rather more than threefold as against a rise in cost of living about twofold, and the disparity of wages between the two sexes was very considerably reduced."

Wage Fixing by the Trade Boards

The trade boards, authorized in 1909 to fix the minimum wage rates for the sweated trades, afford little that is novel in their war activities, but provide an excellent example of the maintenance of existing legal standards in war time. In no case where they had taken steps toward fixing minimum rates did they allow the war to be used as a pretext for interrupting their work. The boards which had been established prior to the war for confectionery and shirt making in Ireland and for tin boxes and hollow ware in Great Britain continued their work, and made awards which

¹ United States Bureau of Labor Statistics, "Women's Wages in Munition Factories in Great Britain," *Monthly Review*, August, 1917, pp. 119-120.

went into effect during 1915. Partially effective orders for confectionery and shirt making in Great Britain became obligatory during the same year. Moreover the scope of two boards was extended, of tailoring to cover certain branches of retail work, and of lace finishing to include "hairnets and veilings." A new board was even set up proposing rates for linen and cotton embroidery in Ireland, which lines had been put under the jurisdiction of the trade boards act before the outbreak of war. But during the war period proper the act itself was not extended to any new industries.

The more direct effect of the war, however, was to cause all of the existing boards to make considerable advances in their minimum rates in an effort to meet the rising cost of living. For instance, the British tailoring board raised the rate for experienced women from 3¼d. (6½ cents) to 4d. (8 cents) an hour in January, 1915, to 4½d. (9 cents) in July, 1917, and 5d. (10 cents) in March, 1918. A special minimum rate of 6d. (12 cents) for experienced women cutters, a class of work in which women had replaced men since the outbreak of war, was fixed in April, 1916. Similarly confectionery had been raised from 14s. 1d., weekly (\$3.38), to 16s. 3d. (\$3.90), then to 19s. 6d. (\$4.68), and by the end of the war 28s. 2d. (\$6.76) was proposed. But it should be remembered that 28s. 2d. was in November, 1918, roughly worth but 13s. before the war, and 5d. was equivalent to little more than 2d. Even the most considerable of these changes failed to keep pace with the rise in the cost of living. "The Trade Boards have not increased rates proportionately to the increase in the cost of living," says G. D. H. Cole, "but only by so much as they thought the industries concerned would be able to support after the war."¹

Wage Changes under Trade Union Agreements

A third method by which the wages of many women were regulated was through agreements with the trade unions.

¹ G. D. H. and M. I. Cole, *The Regulation of Wages during and after the War*, p. 14.

Such agreements really formed a phase of the "dilution" question. Women must be prevented from becoming unfair competitors and from undercutting the standard rates. Consequently, as has been described, the agreements usually prescribed that women substitutes should be paid the men's rate. This was the standard used in admitting women to men's jobs in such important industries as cotton, woolen and worsted, china and earthenware, and boots and shoes. Women were for the first time admitted to work on the more important knitting machines on condition that they should receive the men's piece rates. In such instances the real wages of the women were undoubtedly materially improved.

Another important wage agreement made by the railway unions in August, 1915, secured for the women in grades where they had not been employed before the war the minimum pay given men of the same grade. The agreement did not cover women taken on as clerks, however. In October, 1915, the men's war bonus was increased to 5s. a week (\$1.20) and a number of women applied for it. The companies claimed that the August agreement tacitly excluded the women from participation in the bonus, and the Committee on Production, to whom a test case was referred, agreed. But when the men's bonus was increased to 10s. (\$2.40) in September, 1916, it was "generally felt that it would be only fair to grant the women something."¹ Accordingly, in November, 1916, those over eighteen were given a bonus of 3s. weekly (72 cents) and those under eighteen, 1s. 6d. (36 cents). In three subsequent increases of the bonus during the war period, men and women shared alike, making a total war bonus of 21s. 6d. weekly (\$5.16) for women as compared with 33s. (\$7.92) for men.

In a few cases, the trade unions were satisfied, because of the reorganization of the work, with something less than the men's rate for women substitutes. In the agreement for the bleaching and dyeing trades, a minimum of four-fifths of the men's rate was fixed for time workers though

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

where women turned out the same quantity they were to be paid the same piece wages as men. The Shop Assistants' Union was content with four-fifths of the men's rates for the women, since a few men had nearly always to be retained for heavy lifting. As a matter of fact, in many cases the organization was not strong enough to secure even as much as this.

Wages in Other Trades

Other government departments were not so generous to women workers as the Ministry of Munitions, and paid even less attention to the equal pay pledge of the Treasury Agreement. The Admiralty adopted a minimum time rate for all workers, which was gradually raised from 20s. (\$4.80) to 35s. (\$8.40) weekly, but which in the case of women substitutes had no distinct relation to the wages of their male predecessors. Previous to the institution of minimum rates, the Admiralty, like the War Office, had given women workers a war bonus of only 2s. (48 cents) a week when they had given male mechanics and laborers 4s. (96 cents). According to Mrs. Webb, the War Office continued throughout the war to "pay what it saw fit, and even stopped a contractor from paying the wages ordered by the Ministry of Munitions." Both War Office and Admiralty finally joined, however, in the arrangement by which contractors were reimbursed for wage advances ordered by the government.¹ Wage increases in the Post-office Department were given in the form of war bonuses, which were larger for men than for women. The war bonuses granted all low paid employes in 1915 were 2s. or 3s. (48 cents or 72 cents) for men and only half that amount for women.

Perhaps the strongest complaints of women's wages in governmental service were made in connection with the women clerks taken on by the Civil Service. In 1917 they received only 20 to 26s. (\$4.80 to \$6.24) for ordinary clerical work, and 30s. (\$7.20) for supervision of clerical work

¹ *Vide* p. 112.

which involved considerable responsibility. Women were found who were paid 20s. (\$4.80) for the same work for which men had been receiving 30s.-40s. (\$7.20-\$9.60). The Women's Industrial Council even found it advisable to call a conference on the matter, and to form a committee to take up the question with those responsible. By the end of the war the weekly wages of first-class clerks had gone up to between 50s. and 60s. (\$12-\$14.40).

The wages paid women substitutes for men in trades in which neither legal regulation nor agreements existed are difficult to discover. Bread, rubber, confectionery and saw-milling are important examples of trades of this sort. In such cases the Joint Committee of Industrial Women's Organizations believed that "rather more is gained than the current wage for women. There is no reason whatever to suppose that the rates approximate to the rates of the men displaced."¹ The factory inspectors in 1916 stated that in a few cases there were complaints of very low wages, and women replacing men in bottle works were said to be earning only 11s. (\$2.64) a week.² On the other hand, an investigation of clerical workers' war wages showed that many bookkeepers replacing men were receiving the same pay. The wages of stenographers increased perhaps 10s. (\$2.40) a week during the war.³

As was the case before the war, wages in agriculture remained lower than in most industrial occupations, and, as has been indicated, probably checked the entrance of women into the occupation. In the early days of the war, many farmers asked for women at 15s. (\$3.60) a week. At its organization early in 1917 the Land Army established a minimum rate of 18s. (\$4.28), later raised to 20s. (\$4.80). Through the Corn Production Act, which arranged for the establishment of a minimum wage for farm labor as a condition of guaranteeing grain prices to the farmers, the

¹ Standing Joint Committee of Industrial Women's Organizations, *The Position of Women after the War*, p. 8.

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 6.

³ *Women's Industrial News*, October, 1916, p. 64.

wages of farm labor were brought under legal regulation in the latter months of the war. On October 10 and 11, 1918, a rate of 5d. (10 cents) an hour or about 22s. 6d. (\$5.40) a week was fixed for experienced adult women workers in England and Wales.¹ Six pence an hour was allowed in a few counties in the north of England in which higher rates prevailed. No special provision was made for cases in which the women took up work previously done by men, for whom the legal rates were 30s.-35s. (\$7.20-\$8.40) weekly. In the circumstances it is not surprising that the Board of Agriculture stated that "there is a certain danger in women's work as a cheap form of labor."

The smallest increases in wages occurred in the trades in which large numbers of women were employed prior to the war. In some cases, to be sure, as in power machine operating, steadier work and overtime made earnings considerably higher, and in a trade as far removed from the influence of munitions as cigar making estimated weekly earnings rose as high as 30s. to £3 (\$7.20-\$14.40) weekly during the war. But in most cases, actual changes in wage rates were small, and were generally in the form of a "war bonus" of a few shillings a week which obviously was not sufficient to cover the rise in prices. Wages for learners were said to have increased more than those for experienced workers. The necessity of a decided rise in wages to keep workers from transferring to men's trades made itself felt but very slowly. Wages for dressmakers, milliners, pottery and laundry workers and kitchen hands in restaurants were less than 25s. (\$6.00) a week at the end of the war, which meant less than 10s. (\$2.40) at prewar standards.

But taking the average over the whole field of industry, women's real wages probably increased somewhat during the war. The average weekly wage of women and girls in seventeen important nonmunitions trades, according to returns made by employers to the Department of Labour Statistics, was 12s. 8d. (\$3.54) in May-August, 1915, and 23s. 6d. (\$5.64), in May-August, 1918. Among this group of trades the highest weekly wage in May-August, 1918, was

¹ Great Britain Ministry of Labour, *Labour Gazette*, October, 1918, p. 393.

25s. 8d. (\$6.16) in ready made tailoring, and the lowest 16s. 10d. (\$4.04) in glass manufacturing.¹ "They were nearer 35s. than 30s. weekly toward the end of the war," says the British War Cabinet report. This amount, roughly equivalent to over 15s. before the war, contrasts favorably with the estimate of less than 11s. a week as the average wage of working women in 1912. Nor were real wages reduced through unemployment through the war period. Another evidence of a relative gain is the rise in women's wages from "somewhat less than half men's in 1914 to rather more than two-thirds" in 1918.² The change is ascribed to government intervention, and it is noticeable, indeed, that with wages in munitions work, government work, agriculture and a number of sweated trades all regulated by law, not far from two million women workers had their pay fixed by this method. Such an improvement does not, of course, answer the question of whether or not the women replacing men received equivalent pay.

The Equal Pay Question

It will have been evident from the discussion of women's wages during the war and of the "dilution" problem that "equal pay for equal work" was the chief bone of contention in the replacement of men workers by women substitutes. The question is not always entirely simple. In a large number of cases of substitution industrial methods were reorganized or the woman did not do precisely the same amount and variety of work that the man did. The goal desired by the advocates of "equal pay for equal work" would perhaps be more accurately expressed by the term "economic equality between men and women." Realizing, in fact, that wherever changes were made on the introduction of women the equal pay basis was difficult to determine, its supporters during the latter part of the war

¹ *Vide* Appendix N (p. 249) for table of wage changes in seventeen important non-munitions trades.

² Great Britain, *Report of the War Cabinet Committee on Women in Industry*, April, 1919, pp. 150-151. *Vide* Appendix G for the committee's estimate of the occupations falling into various wage groups.

abandoned the term and spoke instead of "pay by the occupation and not by the sex." But whatever the phrase, the objects were the same, to prevent women from displacing men merely because they were cheaper and at the same time to insure women equal vocational opportunities with men.

Somewhat varied opinions were expressed as to the relative efficiency of men and women on the same kinds of work. The writers of the War Cabinet report on women in industry, a fairly conservative group, felt that the substitution of women in manual labor and out door occupations "was not, on the whole, a success." They excepted, however, farm laborers and bus conductors, provided the women received sufficient wages to "keep them in the healthy condition required." On skilled processes, even in April, 1919, it was not felt that there had been time for the women to gain the training and experience on which a sound judgment could be based. Substitution on routine and repetition processes was considered generally successful, women even excelling men in operations which required "refined and delicate manipulation" and being better able to endure monotony.

Three successive reports by the British Association for the Advancement of Science gave increasing recognition to the efficiency of the woman worker. In the first report published in August, 1915, the Association felt that on the whole adult women were less productive than men, except on routine, monotonous work, though young girls were generally considered more helpful than boys of the same ages.

In April, 1916, in its second report, the British Association was not so certain of the lesser capability of women workers. It quoted one railway official to the effect that women car cleaners could not get through as much work as men, but other railway officials believed that "what women lacked in quantity of work they made up in quality." They could do a surprising amount also "if they had sufficient wages to feed and clothe themselves properly."

¹ British Association for the Advancement of Science, *Labour, Finance, and the War*, p. 201.

Women shop assistants were found as satisfactory as men on all work within their strength. But it was believed that the managerial positions in stores would continue to be reserved for men, who were more likely to be permanent. The statement in the third report of the British Association is that "generally, employers who have had experience speak very favourably of the work which the women are accomplishing. Where labour difficulties have in times past been acute, they tend even to be extravagant in their praise of women."¹

The factory inspectors held a favorable view of the efficiency of the women substitutes. In their 1916 report they stated that, where women were found unsatisfactory, it was generally the case that wages were too low to attract competent workers. In reviewing at the close of the war the substitution of women in nonmunition factories, they felt that the women were successful even in heavy out door work provided they were carefully chosen and good working conditions were arranged.

A large steel manufacturer, Lord Airedale of Gledhow, gave interesting testimony as to the efficiency of women. He said:

There is one thing that the war has taught us here in Great Britain. That is the capacity of women for industrial work. I am satisfied, from my experience, that if we started to train women when they are quite young, at the age when we make boys apprentices, they could do an immense amount of work in engineering trades, apart from machine minding, and the simpler duties they now perform.

The same thing applies to clerical work. Women are doing the clerical work in the London City and Midland Bank, of which I am a director, with the greatest possible success. Some of these young women, I am informed, have become managers. Here again training is all that is necessary to equip for very important work.²

¹ *Ibid.*, *Industry and Finance*, p. 44.

² "Two Important Lessons from England's Experience," *System*, June, 1917, p. 567.

Some of the strongest tributes to women's industrial efficiency came from the Ministry of Munitions. Lloyd George stated that, "the country has been saved, and victory assured by the work of women in the munition factories." From time to time the *Dilution Bulletins* contained examples of an actual increase in output when women replaced men. For example, at an east coast aeroplane factory, twelve women were said to be making twice the number of pulleys formerly made by sixteen men. The output of a horseshoe manufactory increased $7\frac{1}{2}$ per cent after ninety women replaced the same number of men. In one factory turning out 9.2 inch shells, the men handled from eight to eleven during a ten hour shift, while the women handled twenty-four. Frequently when women failed in their work the cause was found to be outside their control. In one case spoilt work was due to the setting of tools wrong by men who were opposed to "dilution." Lack of proper lifting devices was not an uncommon handicap.

The question is of course greatly complicated, especially in industry, by the fact that women are probably not in the majority of cases doing precisely the same work as the men who preceded them. At least four different forms of substitution can be distinguished, in all but one of which the woman's work is not identical with the man's. These have been called (1) complete or direct substitution, (2) group substitution, (3) indirect substitution, and (4) substitution by rearrangement.

"Complete" or "direct" replacement occurs only when a woman takes up the whole of the same work that a man has been doing. The frequency of this form of replacement was perhaps overestimated during the early months of the war, because it necessarily occurred when women took men's places in such nonindustrial positions as postmen, drivers and tramcar conductors, with whom the public comes in daily contact. Until perhaps the third year of the war, however, such complete replacement was for the most part found in the lighter forms of comparatively unskilled work, for instance, sweeping in bakeries, filling sacks

in chemical plants, and some light, unskilled work in munitions and other metal trades. Even in clerical work women were substituted for men largely in the more routine, less skilled branches. But from about 1917 an increasing number of women proved able to do the whole of a skilled man's work in industry, even, in some cases, to "setting up" and repairing their machines. Women were found who seemed to be "natural mechanics"—a quality formerly thought to be entirely lacking in the female sex. The direct substitution of women in scientific, managerial, and supervisory work during the same period has already been noted.

"Group" substitution is said to take place when a group of women do the work of a smaller number of men. It is the method of substitution often used in provision stores and other forms of retail trade. In some cases it has proved to be only a temporary arrangement, followed in a few months by "complete" or "direct" substitution, as the women gained in experience and efficiency and became able to do as much work as the men. The so-called "indirect" form of replacement was common in the metal trades, especially when additional women were first being added to the force. An unskilled man or a boy was promoted to skilled work, whose place, in turn, was taken by a woman. This form of substitution was of course particularly easy to overlook.

The equal pay situation becomes most complicated under the form of substitution most frequent in the skilled trades, namely, substitution by rearrangement. In this case the trade processes themselves are changed on the introduction of women workers. Excellent illustrations of this form of substitution may be drawn from the munition branch of the engineering trade, which was revolutionized by such methods since the beginning of the war. The purpose of the reorganization is to simplify skilled processes so as to bring them within the capacity of less expert workers, all the changes tending toward greater specialization and greater repetition.

A skilled man's work was sometimes analyzed into its various parts and a woman put on each separate part. Or

simpler parts of a piece of highly skilled work were set off for women to do, while a man spent his time exclusively on skilled operations. Thus in many munition factories, where formerly each machine was "set up," operated and repaired by a skilled man, each was operated by a woman, while half a dozen were supervised and repaired by a single skilled man. Another very common method of "substitution by rearrangement" consisted of the introduction of automatic or semi-automatic machinery, in place of hand work or machines requiring considerable attention and initiative on the part of the operator. Thus a machine for cloth cutting is advertised, which, according to the testimonial of an employer, "does the work of four hand cutters and is operated by a *girl* with the greatest ease. Until its introduction it was impossible to employ women at the actual work of cutting, but where this machine is in use it is now done. It has helped us to carry on six government contracts and has reduced cutting costs by more than 50 per cent."¹

From one point of view it would not seem essential that women should receive men's rates if "substitution by rearrangement" has taken place. From another viewpoint, however, if the lower rates decrease the total labor cost of the job, as is almost always the case, the danger remains that lower rates for women will pull down the men's wage standards. More obvious is the menace to the men's rates if women are not generally inferior as workers, and if they are employed at a lower wage scale under the other forms of substitution.

The evidence obtainable on the relative wages received by men workers and by the women who replaced them shows that just that danger exists. While most of the women substitutes have gained an improved financial position, they have not, on the whole, reached a plane of economic equality with the men whom they have replaced. In January, 1916, the *Labour Gazette*, looking back over 1915, said that, "the extensive substitution of women and young persons for men

¹ *Labour Gazette*, April, 1917, p. xxiv.

has tended to lower wages per head for those employed.” The nearest approaches to the men’s level seem to have been attained in occupations covered by trade union agreements which require the payment of the men’s wage scale to the women. But even in some of these occupations, as in transport, the women did not receive all the bonuses of the men. In the munitions industry, the government seemed at first to go on record in favor of the equal pay principle, but, in practice, unskilled and semi-skilled time work were excluded, and the women failed to receive the same cost of living bonuses as the men, though unquestionably the wages of women substitutes in munitions work were much higher than the former level of women’s wages.

In wage disputes involving the question of “equal pay,” the tendency of conciliation boards such as the Special Arbitration Tribunal was to grant some wage increases, but to avoid any declaration on the principle. In the summer of 1918 such action caused a strike of women bus conductors which attracted much public attention. In July both men and women asked for a revision of a previous award on an equal pay basis. The Committee on Production, which handled the case, gave the men a bonus, but refused it to the women on the ground of the precedents set by the Ministry of Munitions in granting similar bonuses only to males. The women struck in protest on August 17, and were supported by most of the men, who feared a future double standard of wages. The committee then reconsidered its decision and on August 30 granted the women the same bonus as the men. The decision recognized the equal pay principle and also that the receipt of separation allowances by soldiers’ wives should not be considered, in fixing wages.

In trades covered neither by union agreement nor legal regulation, women generally received what is high pay according to their previous wage scale, but investigators believe that the men’s level was not even approximately reached.

¹ *Labour Gazette*, January, 1916, p. 5.

CHAPTER XI

Hours of Work

Since the working hours of women in English industry have long been regulated by law, the discussion of the effects of the war on working time centers in the modifications in the legislation made because of war conditions. The main facts are comparatively well known in America. The early war time extension of hours, the discovery that the previous limitations had operated in the interests of industrial efficiency as well as humanitarian considerations and the final restoration of almost the prewar limit of working hours, with a better appreciation of their real utility and value, are fairly familiar. Certain modifications in the daily hour standards were allowed throughout the war, however, and night work by women continued common.

At the outbreak of the war legal hours were ten daily and fifty-five weekly in textile factories, and ten and a half daily and sixty weekly, with a limited amount of overtime, in nontextile factories and workshops. But the Secretary of State had the power to modify these restrictions "in case of any public emergency." The factory acts allowed him at such periods to exempt work on government contracts and in government factories from hour limitations "to the extent and during the period named by him."

The Demand for Overtime

A demand for the exercise of this power to extend women's hours and to allow them to do night and Sunday work was made by manufacturers of army supplies in the early days of the war. While the greatest rush of government orders came to firms making munitions, clothing and camp equipment, the number of trades affected was "unex-

¹ Factory and Workshop Act, 1901, 1 Edw. 7, Ch. 22, Sec. 150.

pectedly great, extending from big guns to boot nails, from blankets to tapes, from motor wagons to cigarettes."¹

The factory inspectors felt that they were facing a difficult problem. Obviously it was necessary to secure the greatest possible output, but it was equally apparent that labor would soon break down if unrestricted overtime were permitted. Moreover, "was it right that one set of operatives should be working excessive hours, while others were without work at all?" It is well to keep in mind also that at this time the Germans were fighting their way through Belgium and advancing on Paris, and that the expeditionary force must at all costs be kept supplied. In the emergency, overtime orders, good for one month each, were granted individual firms who requested them on account of war demands. These orders usually permitted women to work either in eight hour or twelve hour shifts during any part of the twenty-four hours, or, as an alternative to the shift system, two hours of overtime daily on each of five days were allowed, making a seventy hour week. Permission to work Saturday overtime or Sundays was rarely granted. Additional meal periods were required if overtime was worked.

As the unemployment crisis passed, "the sole problem" came to be "what scale of hours was likely to give the largest amount of production." Steps were then taken to replace the first individual permits for exemptions by uniform orders for an entire trade. The latter were still issued, however, not for the industry as a whole, but only to individual firms applying for them. The permits were largely based on joint conferences with employers and employes, and allowed women to work at night or some eight or nine hours of overtime weekly. The latter meant a working week of about sixty-five hours in textile factories, and between sixty-five and seventy in other forms of factory work. The demands of employers had often been for a far greater amount of overtime.

The most extensive modifications of the law were made

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 55.

for munitions plants where, on account of the "urgent demand" the inspectors "recognized that latitude on a very wide scale must be permitted." Night work under either the two or the three shift system was allowed, or as an alternative five hours of overtime weekly or seven and a half in cases of special urgency. But women were not to be employed on Sundays except for night work.

From August 4, 1914, to February 19, 1915, a total of 3,141 overtime permits of all kinds were issued.¹ Only fifty-four permits allowing night work remained in force at the end of 1914, though the number was considerably increased in the first quarter of 1915.

But overtime by women workers was unfortunately not even confined to that sanctioned by special orders. There is considerable evidence that long hours were also worked illegally, sometimes entirely without permission, in other cases above the permitted modifications. In September, 1914, the belief spread about that the factory acts were wholly in abeyance until the end of the war, and the factory inspectors admit that undoubtedly many cases of "long hours without legal sanction" occurred. Yet "these have been steadily brought under better control, the more steadily because of the knowledge of intelligent manufacturers that unlimited hours can not be worked without detriment to output, or in the long run without encroaching on workers' reserves."² According to the factory inspectors, this section of the manufacturers made more resistance to excessive overtime at this period than the workers themselves. In the critical days when the Germans were advancing toward Paris, many women were ready to work all day and all night on army supplies. Except in surgical dressing factories, where the girls were very young and the work very monotonous, the operatives were said to show "a spirit of sustained, untiring effort never seen before and most admirable." One girl is quoted as saying, "My sweet-heart, he's out there, and my two brothers, so I may as

¹ *Vide* Appendix H, p. 240.

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 39.

well be working," and a woman remarked that she wanted to be able to write her husband in the trenches that she was "doing her share."¹ An appeal to the workers was made by Lord Kitchener early in the war to the effect that "in carrying out the great work of providing the army with its equipment employers and employes alike are doing their duty for their King and country equally with those who have joined the army for service in the field." This was often posted in factories, and helped to stimulate the women to work long hours without complaint.

Women's Working Hours in 1915

Authorities differ about women's working hours in 1915 in a way that makes it difficult to determine the exact situation. The factory inspectors showed a considerable degree of optimism. From their point of view the total numbers of hour law modifications in force remained large, but the amount of overtime and week end work declined, and the problem of violations was not serious.

In certain important industries, particularly clothing, boots, shirts, leather equipment and surgical dressings, the need for overtime had "for the present at all events ceased." Yet the total number of requests for exemptions was no less, though there was "a marked reduction in the amount of latitude sought and allowed; for instance, fresh demands for permission to work on Sundays are now rarely received, and are confined to cases where sudden and unexpected emergency arises or the processes are continuous. Requests for Saturday afternoon work have also become less common, and there seems to be a more general recognition of the advantages of a week end rest. . . . Sunday labor has been found to be more and more unsatisfactory; apart from the ill effects which must follow from a long continued spell of working seven days a week, it too often results in loss of time on other days of the week and in consequent disorganization."²

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1914*, p. 40.

² *Ibid.*, 1915, p. 6.

Only fifty orders allowing Sunday work by women and girls were outstanding in December, 1915. These orders were strictly conditioned. Sunday work was to be allowed only in cases of emergency and for part of the day, and was not to be carried on in any two consecutive weeks. Moderate hours through the week and time off on Saturdays were required.

Besides orders covering some twenty-seven different trades affected by war demands, a general order was issued in September, 1915, modifying the statute law in all other nontextile factories in which exemptions were legal. Seven and a half hours of overtime, making a working week of sixty-seven and a half hours, were permitted, and daily hours night run up to a maximum of fourteen. The 1914 general overtime order was continued in the munitions industry, and in special cases a week of from seventy to eighty hours was allowed. The factory inspectors noted on one hand that "many of the schemes put forward were considerably within the maximum allowed, and even where the maximum was sought it has been found in practice that the full number of hours were frequently not worked," and on the other hand that many special orders had been required, especially for the large munition firms, in some of which the hours remained longer than those permitted by the general order for the trade. But on the whole there was "observable a distinct tendency towards a reduction of hours in these works as elsewhere."¹

Moreover, the tendency grew during the year "to substitute a system of shifts for the long day followed by overtime." The factory inspectors urged the introduction of the three shift system, but, owing to the scarcity of skilled male tool setters and other mechanics and sometimes of women, two twelve hour shifts (generally ten and a half hours of actual work) were much more prevalent. The inspectors maintained, however, the superiority of three shifts, giving one example where the change had been made in which output increased by a third while the need for supervision diminished. But it should be noted

¹ *Vide* Appendix I, p. 241.

that although the shift system brought a reduction of overtime to women workers, it involved an increasing amount of night work.

The factory inspectors had but slight criticisms to make of illegal overtime and violations of orders. "There is little cause for complaint as to the proper observance of the conditions of the orders," except in the Midlands. A few cases of serious irregularity were found elsewhere, but were "striking exceptions to the general rule. . . . The most general cause of complaint is that occupiers have taken upon themselves to work overtime without authority, and have continued it without applying for a renewal of their orders. There has been neglect, too, in affixing notices specifying the hours of work."¹

But it is probable that during at least part of 1915 the optimism of the factory inspectors regarding the shortening of hours and elimination of illegal overtime was not completely justified. Under powers granted by the Defence of the Realm Act an order of June 6, 1915,² extended the right of the Secretary of State to modify the labor laws in a way which investigators state "proved very difficult to handle properly."³ The modifications could be made, not only in government factories and on government contracts, but in "any factory . . . in which the Secretary of State is satisfied that by reason of the loss of men or transference to government service, or of other circumstances arising out of the present war exemption is necessary to secure the carrying on of work . . . required in the national interest."

Complaints of excessive hours and violation of overtime orders multiplied. Officials of the Ministry of Munitions admitted, during a visit to the United States in the autumn of 1917, that for four to six months after the shortage of munitions was discovered in the spring of 1915, many women worked nearly a hundred hours a week. A case

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 9.

² Order No. 551.

³ John and Katherine Barrett, *British Industrial Conditions during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

was cited in the House of Commons of a factory where girls were working regularly ten and a half hours a day seven days a week, and had worked ninety-five hours a week "many times" since the beginning of the war. Another much quoted case was that of a firm holding an exemption allowing moderate overtime which worked one girl thirty hours at a stretch and another twenty-five and a half hours. The second girl, who was under eighteen, then met with an accident which brought the situation to the attention of the factory inspectors. A prosecution was started, but at the first trial the case was dismissed on the grounds of a national necessity. At a second trial the counsel for the defense called the prosecution "a piece of fatuous folly, only justified by supreme ignorance," and said that the Home Office, instead of prosecuting "ought to have struck a special medal" for the girls. "Now is not the time to talk about factory acts." The employer was finally put on probation.

However, in the latter part of 1915, and principally as a result of the unsatisfactory conditions there took place the first of a new series of developments which were to bring back women's hours almost to prewar standards and to improve greatly the scientific basis for the restriction of working hours.

To the Ministry of Munitions is mainly due the new committees which were largely responsible for the change. A special agent for the Federal Trade Commission states that—

Toward the end of 1915 it became certain that some action would have to be taken by the ministry to deal with the question of excessive hours, more particularly those worked by women and boys. The department's attention was drawn to the fact that the maximum number of weekly hours allowed under the provisions of the general order made under the factory acts was continually being exceeded and that without the support of the ministry the home office found it increas-

¹ G. D. H. Cole, *Labour in War Time*, 1915, p. 273.

ingly difficult to insure that no persons should work excessive hours.¹

The action took the form of the appointment of an inter-departmental committee on hours of labor which included representatives of the Home Office, the Admiralty, various supply departments and the Welfare Section of the Ministry of Munitions. The committee considered "claims from employers either for permission to work on Sunday, or for exceptionally long hours during the week, and its inquiries have resulted not only in a reduction of Sunday work, but in a more favorable redistribution of hours generally."² In October, 1915, it secured the discontinuance of practically all Sunday work in munition factories on the northeast coast.

In September, 1915, the better known Health of Munition Workers Committee was appointed by the Minister of Munitions with the concurrence of the Home Secretary "to consider and advise on questions of industrial fatigue, hours of labor and other matters affecting the personal health and physical efficiency of workers in munition factories and workshops." By November the Ministry had referred to this committee the question of Sunday work and of the substitution of the three shift for the two shift system.

Even before its recommendations were received the Ministry took steps to discourage Sunday work and the employment of women at night. A circular was sent to all controlled establishments urging that all workers should be granted a weekly rest period—preferably Sunday—both for their own good and in the interests of production. The circular said, in part:

The aim should be to work not more than twelve shifts per fortnight or twenty-four where double shifts are worked. . . . Where three eight hour shifts are worked, not less than two should be omitted on

¹ John Bass, *Report to the United States Federal Trade Commission*, April 17, 1917. (In manuscript.)

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 6.

Sunday. It is, in the opinion of the Minister, preferable to work a moderate amount of overtime during the week, allowing a break on Sunday, rather than work continuously from day to day. It is still more strongly his view that where overtime is worked in the week, Sunday labor is not desirable.

Another circular of instructions in November, 1915, recommended that under the two shift system, women should be employed "as far as is reasonably practicable" by day rather than by night.

Later Developments

Scientific studies in fatigue, and improvements in the regulation of working hours, continued to be the chief features of the women's hour situation during the latter part of the war. Two reports made for the Home Office by Dr. A. F. Stanley Kent on *An Investigation of Industrial Fatigue by Physiological Methods*, showed, as the result of actual experiments with working days of different length, that overtime may "defeat its own object" and actually cause a diminution in "total daily output." The first report which had been published in August, 1915, was of less direct practical importance, giving merely a description of a number of tests adapted to showing fatigue in factory workers. The second report, issued in September, 1916, was a study of output and the effects of fatigue in certain plants making war equipment under working days of different length. Among its most significant conclusions from the point of view of hour restriction were the following:

A worker employed for 10 hours per day may produce a greater output than when employed for 12 hours, the extra rest being more than sufficient to compensate for the loss of time.

A worker employed for 8 hours per day may produce a greater output than another of equal capacity working 12 hours per day.

A group of workers showed an absolute increase of

over 5 per cent of output as a result of diminution of $16\frac{1}{2}$ per cent in the length of the working day.

Another group increased their average rate of output from 262 to 276 as a result of shortening the day from 12 hours to 10 and to 316 on a further shortening of 2 hours.

Under the conditions studied neither rate of working nor total output attains a maximum when a 12 hour day is adopted.¹

Two other scientific reports on the subject dealt with *The Question of Fatigue from the Economic Standpoint*, and were put out by a committee of the British Association for the Advancement of Science in September, 1915, and September, 1916, respectively. The monographs emphasized the importance of an observation of fatigue in the workers and adaptation of the hours of labor thereto. The memoranda and reports of the Health of Munition Workers Committee are the best known of this group of studies, no doubt because besides being the work of scientific investigators, they were carried on to form a basis for official action, and contained definite recommendations for the shortening of hours in order to improve output. While they dealt with munitions work alone, the principles brought out are equally applicable to any form of industrial occupation.

The first memorandum published in November, 1915, covered the subject of Sunday labor, and recommended without qualifications a weekly rest day for all classes of workers.

. . . If the maximum output is to be secured and maintained for any length of time, a weekly period of rest must be allowed. Except for quite short periods, continuous work, in their view, is a profound mistake and does not pay—output is not increased. . . . Some action must be taken in regard to continuous labor and excessive hours of work if it is desired to secure and maintain, over a long period, the maximum output. . . .

¹ A. F. Stanley Kent, *Second Interim Report on an Investigation of Industrial Fatigue by Physiological Methods*, Home Office, 1916, p. 44.

Should the early stoppage of all Sunday work be considered for any reason difficult if not impossible to bring about, the committee trust that it will at least be practicable to lay down the principle that Sunday labor is a serious evil which should be steadily and systematically discouraged and restricted.

For women and for "young persons," the need of abolishing Sunday work and granting week end and other holidays was even more urgent than for adult males. "The committee are strongly of opinion that for women and girls a portion of Saturday and the whole of Sunday should be available for rest, and that the periodic factory holidays should not, on any account, be omitted."¹

The committee went on record at this time in favor of a return to the prewar legal standard of weekly hours. "Continuous work in excess of the normal legal limit of sixty hours per week ought to be discontinued as soon as practicable," though the hours permitted in any one day might vary somewhat more than the factory acts allowed. There was, for instance, "little objection to such moderate overtime during the week as can be compensated for by an earlier stop on Saturdays." But in general, "the need for overtime amongst women and girls is much less pressing than it is for men, they are rarely employed on highly skilled work, and where there is still a good reserve of labor there should be little difficulty in gradually introducing shifts. . . . [The committee] strongly urge that wherever practicable overtime should be abandoned in favor of shifts."

Three systems of hours were found in operation in munition plants. There was the single shift of thirteen-fourteen hours including meal times, which was known as the "overtime system," two twelve hour and three eight hour shifts. The committee considered that in the long run the latter yielded the best results with women workers.

¹ The latter quotation comes from *Memorandum No. 4*, "Employment of Women and Girls," which appeared in January, 1916, and discussed daily hours, night work and rest periods, as well as Sunday labor.

The committee recommend the adoption of the three shifts system without overtime, wherever a sufficient supply of labor is available. Where the supply is governed by difficulties of housing and transit, the committee are of opinion that every effort should be made to overcome these difficulties before a less serviceable system be continued or adopted. . . .

They [eight hour shifts] involve little or no strain on the workers; the periods during which machinery stand idle for meals are very much reduced, while significant statements have been put before the committee claiming beneficial effects upon output.

Observations were later made for the committee of a group of nearly a hundred women over a period of about thirteen months, during which time their actual weekly working hours were reduced from sixty-six on seven days to forty-five on six days. Yet output arose nine per cent. The committee concluded:

For women engaged in moderately heavy lathe work a 50 hour week yields as good an output as a 66 hour week, and a considerably better one than a 77 hour week.¹

In regard to night work, however, the committee felt that the exigencies of war time prevented a return to a really desirable standard. "The employment of women at night is, without question, undesirable, yet now it is for a time inevitable." It demanded special care and supervision and the use of such safeguards as would reduce its risks to the minimum. "In no case should the hours worked at night exceed sixty per week." Whether continuous night shifts or alternate day and night shifts should be worked was a matter to be settled by local considerations.

Another interesting point in the Health of Munition Workers Committee memoranda was the recognition of the

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 18*, "Further Statistical Information Concerning Output in Relation to Hours of Work," 1917, p. 4.

value of brief rest periods within working hours. "Pauses, well distributed and adapted in length to the needs of women workers, are," it was said, "of the greatest value in averting breakdown and giving an impetus to production." Particularly with night work "adequate pauses for rest and meals are indispensable." On twelve hour shifts, two breaks of three quarters of an hour each for meals should be taken out, while on an eight hour shift a half hour for one meal was sufficient. Though the statutes allowed five hours of continuous work in nontextile and four and a half in textile factories, many managers believed that four hours is the longest period during which a woman can maintain continuous work at full vigor. Within this period a pause of ten minutes has been found to give excellent results.

The reports, showing as they did that "the hours which conduced most to a satisfactory home life and to health conduce most to output," have had a notable influence both in this country and in England in strengthening the scientific basis for labor legislation. For instance, on October 3, 1916, a significant clause was added to the order permitting overtime work, allowing it when necessary on account of the war, only if "such exemption can be granted without detriment to the national interest."¹

The Interdepartmental Hours of Labour Committee used the recommendations briefly outlined above as the basis for its work, formulating a new general order regulating overtime, which was finally issued by the Home Office September 9, 1916, after prolonged criticism by all the supply departments. The order applied to all controlled establishments and national workshops and might be extended to any other munitions work. In other cases there was to be a return to factory act hours.

Hours not allowed by the factory act or the order in question are not to be worked after the 1st October, 1916, unless expressly sanctioned by special order from the Home Office. Applications for such special orders will not in future be entertained save in exceptional

¹ Great Britain, Defence of the Realm Act, *Order No. 702*.

circumstances and in respect of work of a specially urgent character.¹

Three schemes of working hours were provided for, a three shift system, two shifts, and a rearrangement of statutory hours. Under the first plan no shift might be longer than ten hours and a weekly rest day was compulsory. Weekly hours under the two shift system were not to exceed sixty, and a maximum of six shifts was to be worked in any one week. The third scheme also limited weekly hours to sixty, and required working hours to fall between 6 a. m. and 10 p. m., but as much as twelve hours might be worked in a single day. Hours for meals were fixed according to the Health of Munition Workers Committee recommendations. In cases of special emergency in naval ship repairing women might work a maximum of sixty-five hours weekly. They might only be employed at night if supervised by a woman welfare worker or "responsible forewoman." Except for the night work, the order was practically a return to prewar standards.²

Meanwhile the Ministry of Munitions gained more direct control over the regulation of hours in January, 1916, through the Munitions Amendment Act, by which it was empowered to fix women's hours on munitions work in all establishments where "leaving certificates" were required. It supplemented the efforts of the Health of Munition Workers Committee by ordering the "investigating officers," of the labor regulation section of its labor department, who had charge of all labor matters except dilution and the supply of labor, to report cases of excessive overtime and unnecessary Sunday work in controlled establishments, with a view to having an order issued prohibiting it. An official circular of March 17, 1916, urged that more use be made of "week end volunteers," so that all workers might have a Sunday rest, "both in the interest of the work people and of production." But the numbers of "week end munition relief workers" remained small, due to the at-

¹ Home Office, *General Order*, Sept. 9, 1916, p. 1.

² *Vide* Appendix J, p. 243.

titude both of the firms and of the workers, who could not afford to lose their Sunday pay.¹

Some complaints of unreasonably long hours still persisted. *The Woman Worker* reported during the winter of 1916 the case of a Scottish factory making cores for grenade bombs which opened at 6 a.m. and closed at 8 p.m. the first five days of the week and at 6 p.m. on Saturdays and Sundays making a working week of eighty-two hours exclusive of meal times.² Investigators likewise stated that the labor shortage and the urgency of the demand have "frequently" caused the recommendations to be exceeded.³

On the other hand, both in the Clyde district and around Birmingham the British Association for the Advancement of Science stated, in April, 1916, that the working week varied from forty-four to fifty-six hours, fifty-four hours being the most common period. In August, 1916, the then Minister of Munitions, Dr. Christopher Addison, said in Parliament in response to questions that the interdepartmental committee was taking steps to bring the working week within the sixty-hour limit in all controlled establishments. And an investigation by the factory inspectors in 1916 found that out of 243 "controlled establishments" 123 were working within the regular sixty-hour limit and only fifteen were working "irregular and excessive" hours, though in nineteen the breaks for rest periods and meals in some way violated the conditions of the order.

In 1916 at least eight hour shifts had failed to "make much progress" and twelve hour shifts were still "predominant."⁴ The latter, it should be noted, meant not twelve but ten and a half hours of actual work over a twelve hour period. Certain large munition establishments, including at least one government factory, even changed

¹ *Women's Industrial News*, April 1916, pp. 17, 18.

² *The Woman Worker*, Feb., 1916. p. 10.

³ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

⁴ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 8.

from the eight to the twelve hour shift in 1916.¹ Besides the shortage of labor it was said that the workers disliked the necessary changes in meal times and living arrangements under the shorter system, and that transportation schedules were not conveniently adjusted to it. It was alleged that young girls preferred the longer hours because they then escaped helping with the housework!

Outside the munitions industry the factory inspectors reported "numerous applications" for overtime orders in 1916, involving, however, a rearrangement of daily hours rather than a weekly total beyond the statutory limit.

Much that was abnormal and bound to be injurious to health if long continued has been brought within manageable limits. Excessive overtime and Sunday labor have been checked and as nearly as possibly abolished. . . . In general the experience of war emergency work, far from making employers in love with extended hours, appears to be producing a contrary effect and bringing about a sense of the importance of so limiting the period of employment as not to produce any feeling of exhaustion or even of marked fatigue.

Much attention was paid to the question of Sunday work by the interdepartmental hours committee. In January, 1916, it obtained a weekly rest period for all women in explosives factories under continuous operation. It soon secured the entire discontinuance of Sunday work by "protected persons" in national projectile and shell factories except a short shift in the projectiles establishments for "rectifying" shells and cleaning the shop. Night work for women, which was never recommended for abolition during the emergency, of course persisted and even tended to increase, as more and more plants went into continuous operation. Especially in shell factories large numbers of women worked at night. Fewer factories worked overtime without permission, though some prosecutions were neces-

¹ *The Woman Worker*, May, 1916, p. 12.

sary in the woolen industry. The idea that the factory acts were in abeyance till the end of the war was disappearing. With an increased recognition of the injury done to both quality and quantity of work by fatigue the powers available under overtime orders were in some cases not fully used by the employers. One employer remarked that overtime orders were "like a drop of brandy, a useful thing to keep in the house, but you didn't want always to be taking it."

The developments in the regulation of women's hours noted in 1916 were typical of the course of events through the latter part of the war. "The tendency to reduce hours continues," said the factory inspectors in 1917. "Cases in excess of the factory acts are now rare." In a report published in 1917, the Health of Munition Workers Committee made an important contribution to standards of working hours by stating that the hours "provisionally" fixed were probably too long, except for very short periods or for very light work carried on under exceptionally good conditions. While the hours which produced the largest output varied according to the nature of the work, age and sex of the workers, and conditions inside and outside the factory, in general "the time was ripe" for a further marked reduction in hours. For certain processes weekly hours could "advantageously be reduced to a total of from fifty to fifty-five" and even lower limits might give an equally good output.¹ No action was taken during the war period by officials to put these recommendations into effect.

The factory inspection department of the Home Office had outstanding in 1917 emergency orders permitting overtime only in various textile industries, where hours were normally limited to fifty-five instead of sixty, in munitions and shipbuilding where the emergency orders of 1916 were continued, in boot factories and in flour mills, oil and cake mills and malting, where night work by women was per-

¹ Great Britain Ministry of Munitions, Health of Munition Workers' Committee, *Memo. No. 20*.

mitted.¹ Sunday work was strictly limited, being allowed only where women replacing men were obliged to work a few hours on Sunday, as in dairy plants, in temporary emergencies in munition factories and in continuous processes, provided another weekly day of rest was given.

An indication of the actual hours worked in munition plants at this time may be obtained from a survey made by the factory inspectors in 1917 of 177 factories in the south-eastern part of England which employed 27,000 persons. The largest group, sixty-two, worked between fifty-five and sixty hours weekly, while fifty-one worked from fifty to fifty-five hours. In thirty-two cases, weekly hours were sixty, and in only five cases were hours longer. On the other hand, twenty plants worked from forty-five to fifty hours and seven less than that number. The factory inspectors stated that the number of "temporary exemptions" to the regular overtime order for munitions work had become very small. In November, 1917, Mr. H. W. Garrod of the Ministry of Munitions gave the average working hours for women munition makers as fifty-two to fifty-four, with one to four hours of overtime. He claimed that the Ministry wanted to do away with overtime altogether, but that the women objected, because it would reduce their earnings. The longest legal hours were apparently in shipbuilding and repairing, where the inspectors felt its harmfulness was reduced because "overtime was intermittent and the work done by time and at a leisurely pace."

¹ *Woolen and Worsted*. In force till June 20, when government rationing of raw material began.

Cotton. Six hours weekly.

Hosiery. Six and a half hours weekly. In force till June 20, when government rationing of raw material began.

Print, bleach and dye works. Up to 60 hours weekly. "Little used."

Manchester warehouses. Up to 60 hours weekly. "Used only in emergencies."

Munitions. Order of September, 1916, continued in force.

Shipbuilding. Maximum daily limit 15 hours. Maximum weekly hours, 63 and 65 in "great emergencies."

Boots. Maximum weekly limit 60 hours.

Flour Mills. Women allowed to work at night.

Oil and Cake Mills. Women allowed to work at night.

Malting. Women allowed to work at night.

Evidence as to the development of eight hour shifts is somewhat conflicting. The factory inspectors reported that in 1917 the system had "no general development." By April, 1917, however, an investigator for the British Government was said to report that women were working eight hour shifts in all government plants, not through any general order but through the action of various local committees to whom the power of regulating hours had been entrusted,¹ and a year later, in April, 1918, the final report of the Health of Munitions Workers Committee speaks of the "increasing number of firms" which had substituted three eight hour for two twelve hour shifts.

Authorities agree, however, that Sunday work had been "reduced to small dimensions" before the end of 1917. In April, 1917, almost all Sunday work by all classes of workers was abolished in every controlled and national munition plant.² The Ministry ordered that the customary factory holidays be observed by all controlled establishments in the summer of 1917. Much night work continued up to the very end of the war, being found on a large scale in munition factories and elsewhere, principally where women were replacing men in occupations in which night work had been customary before the war. The factory inspectors sometimes sanctioned night shifts of as long as twelve and a half or thirteen hours, including meal times.

In spite of the various improvements and a much more sympathetic attitude toward restrictions on the part of employers and employes alike, a woman labor leader asserted as late as July, 1917, that "the factory act was in ruins," and that dangerous privileges "had been accorded to certain classes of employers."³ Yet it is probable that for the later months of war this is an unduly pessimistic point of view.

For 1918, the last year of the war, the Chief Inspector of

¹ Henriette R. Walter, "Munition Workers in England," *Munition Makers*, p. 139.

² *Ibid.*, p. 138.

³ Susan Lawrence, as reported in the *Women's Trade Union Review*, July, 1917, p. 12.

Factories reports that "there are no women and young persons being employed beyond the weekly limit of hours allowed by the ordinary provisions of the Factory Act and the employment of women on Sundays has practically ceased."¹ The report states also that there had been a great advance in the voluntary movement to reduce hours for all classes of labor.

In summing up the war time experience on hours of work and having regard both to the health of employed women and proper leisure for them as human beings, the Committee on Women's Employment of the Ministry of Reconstruction make the following recommendations for future action:

The relaxation of the Factory Acts allowed during the war should cease at its termination and excessive overtime, long spells, night work and Sunday work should be forbidden. There is a *prima facie* case for a reduction in legal maximum hours, in overtime, and in the length of the spell, and for the abolition of work before breakfast, and the government should immediately institute inquiries with a view to amending the Factory Acts. We recommend the possibility of a 44 hours working week and an annual fortnight's holiday on full pay for the consideration of the government.

¹ *The Labour Gazette*, October, 1919, p. 418.

CHAPTER XII

Safety, Health and Comfort

The lengthening of hours for women employes was often accompanied by a considerable improvement in general working conditions. "Since the committee was appointed in September, 1915," said the Health of Munition Workers Committee in its final report in April, 1918, "there has become apparent an increased appreciation of the importance of the whole question of industrial hygiene; there is no doubt that the environment and conditions of the workers are vastly better than they were, though there is still much need for further improvement." As women were brought into many workshops for the first time a general cleaning up often took place, and special accommodations in the way of cloakrooms, washrooms and restrooms became necessary. The long hours, the increasing distances which many workers lived from the factory and the institution of night shifts made some provision for getting meals there almost imperative. It became much more common for men and women to work together, especially on night shifts, and in many cases an effort was made to solve the problems thus raised, and those coming to the front wherever large numbers of women were taken on, by appointing woman "welfare supervisors." Where large numbers of women were brought from a distance to work in munition centers, considerable attention was paid to the betterment of living conditions outside the factory. While the lengthening of hours was abandoned with the passing of the war emergency, the improvements enumerated seem likely to mean a permanent rise in English standards of working conditions.

The 1915 report of the chief factory inspector noted that—

The introduction of women into works where they have not hitherto been employed has been often accompanied by a striking degree of solicitude on the part of the managers for their welfare and comfort. . . . A question arises . . . why has the manufacture of munitions of war on a terrible scale led at last to systematic introduction of hygienic safeguards that factory inspectors have advocated for many years, such as supervision of women by women in factories, provision of means for personal cleanliness, proper meal and restrooms, and qualified nurses? Probably it is in part due to a recognition that wages alone can not adequately reward those who serve the State in time of need, but it also points again to the new general awakening to the dependence of efficient output on the welfare of the human agent.¹

Similarly, many large business offices, when they hired women for the first time, made special arrangements for their health and comfort.

Organized Efforts

Except for the requirement by the Home Office that "canteen" (restaurant) facilities should be provided wherever women were employed at night, the efforts just described were not in the beginning the result of any organized action. But soon there appeared three agencies which were mainly responsible for the development of facilities for safety, health and comfort. These were the Health of Munition Workers Committee, with its recommendations on these subjects, the Ministry of Munitions, especially its Health and Welfare Section, and the Home Office, under the increased powers for securing the welfare of employes granted it by the Police, Factories, etc. (Miscellaneous Provisions) Act of 1916.²

The Health of Munition Workers Committee laid great

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, pp. 14, 15.

² 6 and 7 Geo. 5, 1916, Ch. 31.

stress on provisions for safety, health and comfort, as well as on the limitation of hours. Of female workers the committee said in January, 1916, "The effect upon the health and energy of women and girls which results from clean, bright and airy workrooms, well warmed in winter can hardly be exaggerated. The factory act secures a minimum of these essential things, but the highest standard attained in the best factories is not too high. . . . The provision of washing accommodations . . . has become increasingly important . . . cloakrooms should also be provided. . . . The provision of adequate and suitable sanitary accommodations is a matter of special importance." At that time it was the judgment of the committee that "if the present long hours, the lack of helpful and sympathetic oversight, the inability to obtain good, wholesome food and the great difficulties of traveling are allowed to continue, it will be impracticable to secure or maintain for an extended period the high maximum output of which women are undoubtedly capable." The committee attached high value to "canteens" or factory restaurants, remarking that "the munition worker, like the soldier, requires good rations to enable him to do good work. . . . The industrial canteen has in fact proved itself one of the most effective instruments in securing and maintaining a high standard of industrial work." Three of the committee's memoranda dealt with the subject, and gave complete directions for setting up and equipping a canteen, with model bills of fare. Other memoranda covered "welfare supervision," which will be discussed in the latter part of this section, "washing facilities and baths" and protective clothing for women workers.

"Welfare work" came within the scope of the seemingly boundless energy of the Ministry of Munitions at a rather early date. In November, 1915, a circular of instructions by the Ministry of Munitions contained recommendations for the comfort of women munition workers.² A list of

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 4*, "Employment of Women," p. 7.

² Great Britain Ministry of Munitions, *Circular L6*.

appropriate occupations was given. Lavatory and cloak-rooms with female attendants should be provided for the exclusive use of females, and they should be supplied with aprons and caps, to be washed without charge. Later *Instructions to Investigating Officers* urged that it was "of the first importance that the conditions under which [women] work should be thoroughly good." Suitable appliances, such as lifting tackle for particularly heavy work, should be provided to lessen the physical strain. The Minister of Munitions was prepared to give "liberal financial help" to welfare arrangements by allowing them to be paid for out of what would otherwise be taken by the excess profits tax.¹

In January, 1916, the munitions amendment act gave the Ministry of Munitions more definite control over the introduction of these provisions, such as it had over working hours. The Ministry was empowered to regulate working conditions for females in establishments where the leaving certificate system was in force. In matters already regulated by the factory acts the concurrence of the Secretary of State was required.

Coincident with its enlarged powers and with the recommendations of the Health of Munitions Workers Committee, the Ministry started in January, 1916, an extensive "welfare department" as part of the labor regulation section. Its director was Mr. B. Seeböhm Rowntree, a manufacturer well known for his social studies and for the development of welfare schemes in his own establishment. The aim of the department was to "raise the well being" of women and child munition workers to as high a point as possible in all factories in which the Ministry had power to regulate working conditions.² Numerous specialists were attached to the department, such as physicians for work on the prevention of industrial poisonings, and "welfare officers" to visit the

¹ Under this head were included (1) cloakrooms having separate pegs and arrangements for drying clothes, (2) wash rooms with hot and cold water, soap and towels, (3) sanitary conveniences, (4) rest and first aid rooms, separated, if the latter were used by men, (5) chairs or stools, (6) caps and aprons.

² John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

factories. After their inspections these officials made recommendations for changes, which the department then urged on the firms. It was said that it seldom proved necessary to use the legal powers. The department worked in close cooperation with the Home Office, which was in charge of factory inspection.

Some of the principal factors in working conditions to which the department was directed to give attention were clean workrooms, the suitability of occupation to individual workers, factory "canteens," proper hours and rest periods, wages and the prevention of dangers to health and safety. The department's standard for hours was a working period which "conserved strength, gave a chance for rest and recreation" and was not longer than those recommended by the Health of Munition Workers Committee. Wages must be sufficient to cover "physical needs and reasonable recreation." "Amenities," washing accommodations and cloakrooms, for instance, should also be provided, "such as men and women coming from decent homes may reasonably demand." The department was to "enquire" into all these matters, but not necessarily to deal with them all directly. For instance, the interdepartmental hours committee was the final authority on cases of reduction of hours.

In industry outside munitions work the growing importance ascribed to "welfare" provisions was reflected a few months later in a part of the "Police, Factories, etc. (Miscellaneous Provisions) Act" of August 3, 1916. The Home Secretary was empowered by this measure to issue special orders "for securing the welfare of the workers" when the nature of the work or "special circumstances" made it advisable. Such orders might cover either a single establishment or a special class, all the workers in the establishments in question or merely some special class. The welfare provisions might be compulsory only when applied for by some specified proportion of the workers. Such improvements in working conditions above the ordinary statutory requirements might include "arrangements for preparing or heating and taking meals; the supply of drink-

ing water; the supply of protective clothing; ambulance and first aid arrangements; the supply and use of seats in workrooms; facilities for washing; accommodations for clothing; arrangements for supervision of workers."

In one respect, however, labor leaders believed that the bill contained a backward step. It permitted deductions from wages to pay for the additional benefits, though during its passage through Parliament the labor members secured considerable safeguards of this power. Contributions could be used only to pay for benefits "which, in the opinion of the Secretary of State, could not reasonably be required to be provided by the employer alone, and if two-thirds of the workers affected . . . assent." Aside from the dangers of abuse under this provision the measure seems to provide a method for securing decided improvements in working conditions and for arrangements better suited to the varying needs of different industries than is possible under general statutes.

How far the various rules and recommendations actually resulted in better working conditions is an interesting question. Apparently considerable gains were made, though further advances were still practicable. In the munitions industry, for instance, national factories are said to have "naturally adopted welfare in all its phases," while the arrangement that improvements could be made out of what would otherwise be taken as excess profits tax was a strong inducement to action by "controlled" establishments. But in the early months of 1916 soon after its formation the welfare department of the Ministry of Munitions undertook, in cooperation with the factory inspectors, a survey of "controlled" and "national" munitions plants to see which ones most needed its attention. At that time, out of 1,396 plants covered, 31 per cent graded "A," 49 per cent "B," and 20 per cent "C."

It is well to grasp the point that B and C conditions meant in varying combinations partial or complete

¹ John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

lack of messroom accommodations or facilities for cooking food; inadequate or nonexistent cloakrooms and washing appliances even for dusty and greasy occupations; lack of supply of seats; need of first aid and rest rooms; supervision even of numerous young girls by men only, and other defects in factories mostly working twelve hour shifts, and reached often by considerable journeys from the workers' homes.¹

Allowance must be made, however, for "great progress" during the year. Undoubtedly a number of the factories class B . . . have qualified for class A, and to a lesser extent this is true of class C."² In a similar vein the *Women's Industrial News* said in April, 1916, that the standard of comfort advocated by the Health of Munition Workers Committee for restrooms, cloakrooms and canteens was "rare" but that "it was possible to hope for a gradual improvement in conditions." A study of women in the engineering industry, made in the middle of 1917 and written from a critical point of view, not likely to overestimate improvements, stated that, "in one factory after another the essential precautions of health are enforced, including the appointment of women medical officers and provision of hot breakfasts and milk in the "danger" sheds; while new factories are built with every up-to-date canteen, restroom, sanitary, heating and lighting or other convenience."³ In June, 1917, Dr. Addison, then Minister of Munitions, reported canteen accommodations in national and controlled establishments for about 810,000 workers, there being a total of some 1,750,000 persons employed. In October the Health of Munition Workers Committee stated that canteen accommodations had been provided for 920,000 or 45 per cent of all munition makers.

To be sure, women workers have had not a few grievances about the canteens. A delegation of organized women workers called on government officials in December, 1916,

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, p. 9.

² *Ibid.*

³ Barbara Drake, *Women in the Engineering Trades*, p. 74.

to protest against the poor food and the "rough and ready manner" in which it was served.¹ One canteen was described as so third-rate that "any bloomin' good pull-up for car men is a regular Hotel Cecil to it." But the numerous canteens run by one of the religious organizations for women were highly praised by the workers themselves.

The *Dilution Bulletins* give some interesting and significant results secured in munitions work through betterments in working conditions. In one factory it was estimated that 2,500 hours' work weekly was saved by prompt attention to slight accidents and illness. Another firm declared that free meals more than repaid in increased output. In another, output improved after good washrooms and cloak-rooms were put in. Seats with backs increased production 10 per cent in one case. The Health of Munition Workers Committee ascribed both "direct and indirect" benefits to the installation of canteens. "Among the former has been a marked improvement in the health, nutrition and physical condition of the workers, a reduction in fatigue and sickness, less absence and broken time, less tendency to alcoholism and an increased efficiency and output; among the latter has been a saving of the time of the workmen, a salutary though brief change from the workshop, greater contentment, increased opportunity for recreation and a better midday ventilation of the workshop."²

In nonmunitions industries there was some grumbling at alleged delay by the Home Office in taking advantage of the "Police, Factories, etc. (Miscellaneous provisions) Act." Up to the end of 1916 the only action taken under the law had been to hold formal conferences on future welfare requirements in the pottery and tin plate industries. Without use of the act, the factory inspectors reported "great progress" in 1916 in improving conditions in a most varied group of industries; sugar refineries, confectionery, breweries, oil seed crushing, rope works, paper mills, woodworking, cloth and webbing making and tobacco, and also in the

¹ *The Woman Worker*, January, 1917, p. 13.

² Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Final Report*, April, 1918, p. 58.

tin plate industry in advance of an order. Advances in these trades were believed to have been greatly assisted by the publicity given "welfare" in the munitions industry.

The first order under the act went into effect on October 1, 1917. It required a supply of pure drinking water and drinking cups in all factories employing more than twenty-five persons. A second order was issued in October, to go into effect December 1, 1917. It applied only to blast furnaces, copper and iron mills, foundries and metal works. In all such establishments having more than 500 employes, an "ambulance room" in charge of a trained nurse must be provided, and the provision of "first aid" outfits was made compulsory wherever twenty-five or more persons were employed. The third order covered the provision of protective clothing, cloakrooms and canteens in tin plate factories. Apparently the only addition to the orders made in 1918 covered similar provisions for certain tanneries.

Occupational Diseases in Munitions Work

Besides the general dangers to health from poor working conditions, a number of specific occupational poisonings menaced the health of women munition workers. They might be exposed to poisonous gases, lead, fulminate of mercury which might cause mercurial poisoning or eczema, tetryl, which also caused eczema, picric acid, or nitrous fumes, together with the danger of dermatitis from the lubricating fluids used on metals, and of suffocation from cordite used in filling shells. The worst risk, however, was that of contracting toxic jaundice from the "dope" (tetrachlorethane) used in varnishing the wings of airplanes and from "T. N. T." (trinitrotoluene), an explosive with which many women were filling shells. In the year 1916, 112 cases of toxic jaundice among female workers and thirty-one deaths were reported to the Home Office. Up to the summer of 1916 the majority of the cases seem to have been caused by "dope poisoning." On August 8 of that year a representative of the War Office and Admiralty stated that several satisfactory nonpoisonous "dopes" had been discovered, and the manufacture of the poisonous substance

ceased in September. The new dopes were not without harmful effects on the health of the workers, causing in some cases headache, dryness of the throat, coughs, nausea and serious anemia, but not jaundice.

Workers on "T. N. T." sometimes contract an annoying eczema as well as the more dangerous toxic jaundice, and it is feared that the substance renders some women permanently sterile.¹ Even when they are not sickened by the poison, the hair and skin of workers handling "T. N. T." often turn bright yellow. For this reason workers on the substance have received the nickname of "canaries."

Instructions for the prevention of "T. N. T." poisoning were issued by the Ministry on February 19, 1917. They were designed to prevent the absorption of the poison through the skin, which was believed to be the principal means of infection. Working "costumes" to be washed at least weekly, and washing accommodations were to be provided, and each worker was to receive free daily a pint of milk. After a fortnight of work on "T. N. T." processes at least a fortnight on other work was to be given, and a weekly medical examination was compulsory, with removal of any workers found affected. A special person was to be appointed in each work place to see that the rules were carried out. The statistics on cases of toxic jaundice caused by "T. N. T." show that these precautions were effective in greatly reducing the disease. From October through December, 1916, 86 cases and 23 deaths were reported, while during the same period in 1917, although many more workers were exposed, only 29 cases and four deaths were reported. In April, 1918, it was claimed that the disease had been "almost abolished," no fatal case having been returned since February.²

Welfare Supervision

In the improvement of working conditions of women during the war much stress has been laid on what is known in

¹ *The New Statesman*, February 3, 1917, pp. 415-416.

² Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Final Report*, April, 1918, p. 76.

England as "welfare supervision." At the beginning of the war it was estimated that there were about eighty such supervisors in the country.

The first steps in this direction were taken by the Home Office, in its early permits allowing night work, which were made dependent on the supervision of women. The Health of Munition Workers Committee devoted one of its first memoranda to the subject.¹ The committee spoke of the need, as an aid in obtaining the best possible output, of some special machinery for taking up grievances and matters of discipline and personal welfare:

The committee desire to record their unanimous conviction that a suitable system of welfare supervision . . . is essential in munition works where women and girls are employed, and, they must add, urgently necessary.

Under the Ministry of Munitions the idea of "welfare supervision" was extensively developed, and became, in fact, to a large section of the public the most prominent feature of the Ministry's campaign for better working conditions. The chief duties of "welfare supervisors" within the factories as outlined by Mr. Rowntree, the head of the welfare department,² and by an official circular of the Ministry of Munitions included the following: The supervisors should hire or keep in touch with the hiring of new workers and the choosing of foremen, and investigate dismissals, resignations, cases of sickness and lost time, and of poor output caused by ill health. They should have a general supervision over working conditions, especially over night work, and over canteens and rest rooms and should cooperate with the plant doctor and nurse. They should keep watch of the wages received, should investigate complaints by the workers and help in the maintenance of discipline. No woman's case should be brought before a

¹ *Memorandum No. 2, "Welfare Supervision,"* January, 1916.

² John and Katherine Barrett, *British Industrial Experience during the War*, Sen. Doc. 114, 65th Cong., 1st Sess.

"Munitions Tribunal" until the welfare supervisor had been consulted.

One of the chief functions of the welfare department came to be the introduction of "welfare supervisors" or "lady superintendents" into munition plants. The work was started in 1916 with thirty-four women, all of whom were appointed through the exercise of the legal powers of the Ministry of Munitions. The department organized a "board of qualified women" to interview applicants and to recommend to employers those found suitable.¹ Over 1,000 such women were at work at the time of the armistice, about half of whom came from the panel formed in this way and the remainder of whom were chosen by the boards of management. Officials of this kind were appointed in all national factories and in those in which "T. N. T." was used.

The Health of Munition Workers Committee pronounced against the policy of governmental appointment of "Welfare supervisors."

Welfare supervisors the Committee held should not be appointed by the State. They will probably continue for some time to come at any rate to be appointed by the employer, as the person responsible for the maintenance of satisfactory conditions of employment, though the workers are likely to an increasing extent to seek some voice in the selection. Though the establishment by the Ministry of Munitions of a panel of candidates has been justified as a temporary expedient, it is not desirable that any Department of State should do so as a permanent arrangement.

The welfare department advised that the "welfare supervisor" be "a woman of good standing and education, of experience and sympathy, and having, if not an actual experience, at least a good understanding of industrial conditions. Experience as a teacher or forewoman was valuable. The worker was to be paid by the employer—in government factories by the Ministry of Munitions—and her "duty was

¹ B. Seebohm Rowntree, "The Value of Welfare Supervision to the Employer," *System* (Eng. ed.), June, 1916.

to the firm." Her success would be found to be dependent on her employer's recognition of her importance and her own personality. Although the welfare department encouraged the opening of numerous training courses, it proved difficult to find a sufficient number of women with suitable qualifications, and some attempts at welfare supervision are said to have been "futile and misdirected" because of a poor choice of supervisor. Particularly where untrained relatives of members of the firm were employed, there was danger of undue interference with the personal affairs of the employes.

The justification of "welfare supervision," according to the official point of view, lay in an increased output. A supervisor could look out for details for which the management had no time, but which insured good conditions for its women employes. "Working on this line, lady superintendents perform a most useful service, relieve the management of a large mass of difficult detail; and increase the firms' output by promoting the health, efficiency and happiness of the workers." The factory inspectors described a plant where discipline was unsatisfactory, the factory acts violated, and women night workers were not provided with meals or supervised by women. At the end of five months of welfare supervision it was "improved almost beyond recognition. Irregularities had disappeared; a good mess room and excellent kitchen and an ambulance room had been built; satisfactory first aid outfit provided."

Attack on the Welfare Movement

Nevertheless the whole program of "welfare work" and especially "welfare supervision" was the subject of severe criticism from the labor movement and radicals in general. The feminist Rebecca West even went so far as to say of it that "to women the capitalist can do with impunity all the things he no longer dares do to men."¹ Mary Macarthur, the secretary of the National Federation of Women Work-

¹ Rebecca West, "Mothering the Munition Maker," *The New Republic*, Oct. 13, 1917, p. 300.

ers, described "welfare" as "the most unpopular word in the terminology of the factory worker."

The aim of increased output was attacked. The betterment of industrial conditions should be directed toward "improved health, comfort and development" for the workers as ends in themselves, instead of regarding the worker as a means of greater production.

But in most cases a distinction was made between "structural improvements" and better hours and wages on one side and "welfare supervision" on the other. The former were considered "desirable and even imperatively needed," though it was not best that they be gained through any "welfare movement." "Structural improvements" should result from factory legislation and the action of factory inspectors; wages and hours should be fixed by collective bargaining between employers and trade unionists. But there were few kind words for "welfare supervision." The ideal of the "welfare supervisor" was docile, obedient and machine-like" women workers. "The good welfare worker was the most dangerous" because she was most likely to be successful in reducing independence and turning the workers from trade unionism. As long as she was responsible to the employer, she might be obliged to use her position only to become "a more efficient kind of slave driver." Her duties, as officially outlined, were "an indiscriminate medley," much of which involved an interference with the private and personal affairs of the workers. Barbara Drake felt that they covered "the whole life of the worker, working or playing, living or dying."¹ Other attacks were more moderate and recognized that much depended on the personality of the supervisor:

While some supervisors in the future—like some forewomen in the past—will do much to safeguard and improve our girls' working lives, others will begin their career full of queer notions as to "discipline" and openwork stockings, and firmly persuaded, till experi-

¹ *Women in the Engineering Trades*, p. 75.

ence teaches them better that "Trade Unionism is of the devil."¹

The Health of Munition Workers Committee admitted that "the confident support of the workers has yet to be obtained. Undoubtedly unwise appointments have been made; complaints have been considerable and often well founded, though their importance may have been over emphasized." But "on the other hand some mistakes were inevitable in the initiation of what was largely a new enterprise in industrial organization. The conditions of employment of women have vastly improved. It has been and is likely to be of material advantage that there should exist a body of persons specially concerned to promote the health and well being of the worker."²

More moderate critics, while seeing dangers in "welfare supervision" as a permanent policy, felt that it might be of value under the emergency conditions of the war.

The help in need of the welfare officer can not, perhaps, be too far extended . . . in order to meet the predicament of scores of thousands of inexperienced women and young people drawn into mushroom munition factories from every kind of home and employment, working day and night (until the limit of human endurance perhaps), stranger to the town and countryside. To the efforts of the welfare officer the workers owe, indeed, not a little of the improved conditions and comfort enjoyed in many national and other model munition factories.³

As a substitute for the "welfare supervisor" the radicals brought forward plans for "workshop committees." A "joint committee on industrial women's organizations" conferring on the "reconstruction of factory life" in the spring of 1917, passed a resolution that "all the concerns of the worker" should be cared for in each shop by a trade union committee. Schemes of this sort were indeed occasionally

¹ *Women's Trade Union Review*, Jan., 1917, p. 12.

² Great Britain, Health of Munition Workers' Committee, *Final Report*, 1918, in United States Bureau of Labor Statistics, *Bulletin No. 249*, p. 263.

³ *Women's Industrial News*, April, 1917, p. 19.

in successful operation. The factory inspector's report for 1916 described the "workers welfare committee" of one large factory, made up of thirteen persons, one representing the management, who were elected at a general meeting of the employees. The workers agreed to a deduction of a little more than 1 per cent of their wages, which gave the committee an income of over £50 (about \$240) weekly. With this fund help was given local hospitals and convalescent homes which were used by the employees, war relief funds and cases of distress among the force. Daily newspapers were provided in the canteen and "concerts twice a week at dinner time. 'Whatever we want we can have,' said a member of the committee." Such a compromise, it would seem, could preserve the benefits of "welfare supervision," while satisfying the workers and giving them valuable experience in administrative work.

Improvements in Conditions Outside the Factory

The activity of the Ministry of Munitions did not halt at the factory gates, but extended outside into matters of housing, transit, provision of recreation, and the care of sickness on the ground that the abnormal conditions of the new munition centers affected the efficiency of the workers. Mr. H. W. Garrod of the Ministry of Munitions believes that perhaps the most difficult problems it encountered in connection with women workers arose concerning the welfare of the women who were moved away from home to work at a distance at the rate of 5,000 a month or more.

Work of this nature for women away from home was at first in the hands of the "local advisory committees on women's war employment." The official conception of the duties of "welfare supervisors" also included attention to such items. In January, 1917, the Health of Munition Workers Committee brought out a memorandum on "Health and Welfare of Munition Workers outside the Factory." In this it stated:

The necessity in the present emergency of transferring workers from their homes to distant places where

their labor is required has created an unparalleled situation, and problems of the first importance to the nation are arising simultaneously in munition areas in various parts of the kingdom, especially as regards women and girls. The committee are of opinion that the situation calls for some more complete and systematic action than can be taken locally by isolated bodies of persons, however public spirited and sympathetic they may be. . . . It is, therefore, from no lack of appreciation of the work of these committees that the Health of Munition Workers Committee must express the opinion that the time has now come to supplement and reinforce them by a larger degree of State action than has hitherto been deemed necessary.

In accordance with their recommendation the welfare department of the Ministry of Munitions appointed a number of "outside welfare officers" who aided the committees and who were held responsible for the successful accomplishment of the work.

The picture of transportation difficulties given by the committee forms an interesting sidelight on conditions in and about the new munition centers:

Health, timekeeping, temper and output all suffer, when to the day's work is added the discomfort and fatigue of a long walk to and fro in bad weather or in darkness, or a scramble to squeeze into a crowded railway carriage, tram or omnibus, with a long journey in a bad atmosphere. In the darkness of early morning and at night, when no lights are allowed to be shown on the railway, separate compartments for women are desirable, and no traveling without a light inside the carriage should be allowed; in some places carriages without blinds or other means of shading the windows are used for the convenience of work people of both sexes. Under these circumstances artificial light cannot be used and the journey is made crowded together in total darkness.¹

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 17*, "Health and Welfare of Munition Workers Outside the Factory," 1917.

In the more crowded centers living accommodations were equally overtaxed. "The sudden influx of workers in several districts has so overtaxed the housing accommodations that houses intended for one family are now occupied by several."¹ And "beds are never empty and rooms are never aired, for in a badly crowded district, the beds, like the occupants, are organized in day and night shifts."² High charges and poor service added to the discomforts of the overcrowding:

About eighteen months ago I visited a Midland town where the girls, although they were earning from twenty-five to fifty shillings instead of the fifteen to eighteen shillings which was their weekly wage in peace time, were living in conditions more unhealthy and uncomfortable than they had ever endured before. It was common for a girl on the day shift to go back to a bed from which a worker on the night shift had just arisen. Girls on a twelve hour shift would have to lodge an hour and a half from the factory, so that their working day amounted to fifteen hours. To get a roof over their heads they would have to put up with dirt, bad cooking, rowdy companions and above all extortionate charges; the poor also can cheat the poor. I have known the wives of foremen earning over five pounds a week to charge a girl fifteen shillings a week for bed and breakfast.³

The housing situation, however, was taken in hand by the Ministry of Munitions on an extensive scale. Sometimes it was relieved by the improvement of transit facilities or the payment of workers' fares to outlying districts. It is claimed that in the first year after the passage of the munitions act accommodations for 60,000 people were provided, and that "whole villages were built." In some cases the government advanced money to local authorities or philanthropic organizations and in other cases itself undertook

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 2*, "Welfare Supervision," p. 3.

² *Ibid.*, *Memorandum No. 4*, "Employment of Women," p. 5.

³ Rebecca West, "Mothering the Munition Maker," *The New Republic*, Oct. 6, 1917, p. 267.

the work. The accommodation provided especially for women workers generally took the form of large dormitories or "hostels."

A comprehensive description of the hostels, drawn from two unpublished reports of the "hostels subsection" of the Ministry of Munitions Welfare Department, was published by the *Monthly Labor Review* of the United States Bureau of Labor Statistics.¹ According to this account, the hostels subsection had 276 hostels for women out of a total of 494 under inspection in May, 1917. About half were private, most of which were owned by employers and a few by charitable or benevolent associations. Accommodations were provided for from twenty to several hundred women, the government hostels being the larger. Most of the buildings were one story, and of temporary wooden or concrete construction. Sometimes existing buildings like board schools were remodelled into hostels. The majority did not even pay expenses, and only one was reported to return a commercial profit. Some served merely as clearing houses, keeping girls one or two nights on their first arrival at their new work places, until they found permanent lodgings. The temporary clearing house work was considered one of the most important functions of the hostels.

The success of the hostels was, however, doubtful. In May, 1917, they were said to be only half filled, although this is ascribed in part to the policy of building them in advance of the demand, so that there might be no excuse for delaying the progress of dilution and the introduction of women workers from other communities. In January, 1918, the hostels were two-thirds filled, but this was perhaps rather caused by the greater housing shortage than by their increased popularity. Particularly in the north of England and Scotland, where they were associated with the idea of reformatories, the women preferred lodging with a family even where "they had to pay 12s. (\$2.88) a week for a third of a bed." Representatives of the Ministry of Munitions believe that the partial failure of the system was due to the

¹ June, 1918, pp. 206-210.

rules and regulations necessary when large numbers of women were brought together, the difficulties arising if even one woman of questionable character got into a dormitory, and the lack of privacy and of a homelike atmosphere.

There was much criticism by trade unionists of the hostels, especially when these were under company control. It was not considered wholesome or right that girls should eat and sleep with their work mates. A girl who lost her position lost her board and lodging at the same time, and, if far from home, might be in a helpless and dangerous position. The girl in a company hostel was "under the firm's forewoman by day and the firm's matron by night, and all the time under the firm's welfare supervision." The official rejoinder to these criticisms, as illustrated by the attitude of the welfare department of the Ministry of Munitions, was that hostels were regarded "as a temporary war expedient and as a means of keeping up efficiency and output because they provide proper housing and feeding of the workers. Hostels are in no sense regarded as a permanent solution of the housing problem." But it was believed that because they provided better accommodations than many of the workers had previously enjoyed, they might serve permanently to improve their standard of living.

The Billeting of Civilians Bill, which went into effect May 24, 1917, represented still another effort to solve the housing problem in the crowded munition centers. Civilians engaged in war work of national importance, might, at the request of the government department concerned, be billeted like soldiers¹ with householders in the vicinity. Local committees were organized to administer the law and fix the scale of payments. But up to April, 1918, no use had been made of the power of compulsory billeting. "It is doubtful how far it is workable in practice," said the Health of Munition Workers Committee.²

Other interesting points in the work of the Ministry of Munitions for "welfare" among women workers outside

¹ A number of soldiers may be assigned to a town, and householders may be required to furnish them with board and lodging at a fixed rate.

² *Final Report*, April, 1918, p. 127.

the factory included provision for recreation and for day nurseries. Especially in the hostels attention was given to recreation. The long hours and hard work did not leave much energy for classes, but modern books were in great demand and gardening was popular. A Hindu prince, the Maharajah Sandia of Gwalior provided a fund of £6,000 for the development of recreation schemes. Lectures and concerts, library books, lantern slides and a holiday camp for boys were among the items provided out of this fund. At a few of the large establishments, such as Woolwich Arsenal, clubs were organized and recreation grounds were arranged.

The Ministry of Munitions established the policy of aiding the opening of day nurseries for the children of women munition workers. In 1916 the Ministry decided to make special grants to such institutions to the amount of 75 per cent of the cost of initial equipment and 7d. (14 cents) for each child daily. The Board of Education was to be responsible for the supervision of the nurseries, thirty-one of which had been opened up to April, 1918. The majority were open by night as well as by day. This entire movement was severely criticised by certain groups. "I have said nothing of the risk of planting *crèches* near explosive work nor of risks to the babies' health in carrying them on crowded trains at nightfall or dawn," said Dr. Marion Phillips, a well known representative of labor. "This whole method means a very forcible breaking up of the family life of the community." In France many *crèches* for the children of working mothers were established, but in England the movement was not popular and gained but little headway.

Whatever may be the verdict concerning the desirability of the various welfare measures outside the factory as a permanent policy, the greater appreciation of the need of good working conditions within the shop, and the actual improvements made, are noteworthy progressive steps in the history of British working women during the war.

CHAPTER XIII

Effects of the War on the Employment of Children

In addition to the great increase in the number of employed adult women, war conditions led also to a large growth in the number of employed young boys and girls. The demands of industry, economic necessity and patriotic motives undoubtedly all played a part in the movement. During the unemployment crisis of the autumn of 1914 it was, for a few months, difficult to find places for young workers. In the month ending September 11, 1914, 22,000 boys and 23,000 girls registered at the employment exchanges as against 14,500 boys and 12,700 girls in the corresponding month of 1913. The problem was serious enough in London to cause the establishment of recreation clubs, workrooms and classes for unemployed boys and girls. Children who had recently left school were urged to return.

But on account of the acute need for labor as more and more men were taken into military service, a strong demand for boys and girls at rising wages soon succeeded the depression. By December, 1914, the number of boys registering at the employment exchanges was lower than before the war, and in the first six months of 1915 there were more vacancies than applicants. The increase in the employment of boys was not as steady as that of women, however. Coincident with the spread of substitution by women from 1917 on, the rate of increase fell off, especially in the metal trades, where there was an actual decline of 9,000 between April and October, 1917. The check to employment was so serious as to come to the attention of the Ministry of Munitions, which asked dilution officers to bring to the attention of the Juvenile Employment Committees cases where considerable numbers of boys were to be discharged. Beginning with October, 1917, the Royal Air Force relieved the situation to some extent by using boys

from fifteen to eighteen years of age as mechanics, hiring about 5,000 up to April, 1918.

On the whole juvenile employment increased during the war. As was the case with many married women, the rising cost of living and the inadequate separation allowances received by soldiers' families frequently made it imperative for boys and girls to seek gainful occupation at the earliest possible opportunity. Notably on munitions work patriotic motives proved a strong incentive to attract many young people. Moreover, the natural desire of not a few children to be through with school restraints and to enter adult life was reinforced by the excitement of war time and by the taking over of numerous school buildings for military purposes.

The only set of statistics covering the increase in juvenile workers, comparable with the quarterly reports on the increase in the employment of women, was published by the Ministry of Reconstruction's committee on "Juvenile Employment during the War and After" and compared October, 1917, and January, 1918, with conditions in July, 1914.¹ It showed that between July, 1914, and January, 1918, in the various occupations outside domestic service the number of working boys and girls under eighteen had risen from 1,936,000 to 2,278,000, or 17.6 per cent. The number of boys increased by 94,000, or 7.4 per cent, and of girls 248,000, or 36.6 per cent, the greater increase in the number of girls being ascribed to the large numbers who turned from domestic service or home duties to the munition factory. It is interesting to note that in contrast to the steady increase in the number of women workers throughout the war, the total number of working boys and girls declined by 9,000 between October, 1917, and January, 1918.

Analyzing the movement of boys and girls between various occupations, among the various kinds of manufacturing by far the largest increase for both sexes was found in the metal trades, that is to say, munitions. Ten thousand boys

¹ *Vide* Appendix K, p. 245.

were employed in Woolwich Arsenal alone before the end of the war. The number of boys in the building trades, wood trades and miscellaneous trades decreased, as well as the number of both sexes in the nonwar industries of textiles, clothing and paper and printing. The increase over the whole group of "industries," was not, especially with girls, as large as in nonindustrial occupations. In the latter, boys moved away from "finance and commerce," "agriculture" and "postoffice" into "transport" and "government establishment," while the increase in the number of girls, though occurring in every occupation, was especially large in "finance and commerce."

Unfortunately the statistics fail to separate the three classes of juvenile employment which should be considered. These are employment which would have been permitted previous to the war, that involving the relaxation of child labor and compulsory education laws and that which remained entirely illegal. In all three classes, the war apparently produced an increase in numbers.

With regard to the first class, boys and girls legally entitled to work under ordinary circumstances, the British Board of Education estimated that in 1915 the number of children leaving the elementary schools at the age of fourteen or thereabouts was increased by about 10 per cent, or 45,000. For 1916, Mrs. Sidney Webb put the increase in the number leaving in this way at 50,000 to 60,000.¹ On the other hand, Mr. Herbert Fisher, president of the Board of Education, stated in the House of Commons in April, 1917, that, with the greater prosperity of the working classes since the war, the enrolment in secondary schools had increased.²

The Chief Medical Officer of the Board of Education also noted a large increase in the number of children employed outside school hours. In June, 1916, twenty "Juvenile Advisory Committees" on vocational guidance for boys and girls leaving school reported an increase in the number of

¹ Owen R. Lovejoy, "Safeguarding Childhood in Peace and War," *Child Labor Bulletin*, May, 1917, p. 74.

² United States Department of Labor, Children's Bureau, "Child Labor in Warring Countries," *Bureau Publication No. 27*, 1917, p. 12.

employed school children and only one a decrease. In November, 1917, forty-five out of fifty-seven committees reported an increase. "With a few exceptions," it was said, "those in close touch with the children express the opinion that the consequences to their health and education have been wholly bad.¹ In one town 9 per cent, in another 19 per cent and in another 40 per cent of the schoolboys were working outside school hours. The number of "half times," or children over twelve who alternated between school and work, rose from 69,555 in 1914-1915 to 73,596 in 1916-1917.

Relaxation of Child Labor and Compulsory Education Laws

Although definite totals are not obtainable, a deplorable increase seems to have taken place during the war in the number of working children between eleven and fourteen who, prior to the war, would have been protected by child labor and compulsory school laws. "The growth in the number of children obtaining complete exemption before fourteen cannot be stated with equal precision," said the Committee on Juvenile Employment during the War and After, "but evidence drawn from various sources shows that with the increase in the entrants for Labour Certificate Examinations and the general relaxation of local by-laws it has been considerable."

In 1911, according to official figures, only 148,000 children under fourteen were employed in all Great Britain. In August, 1917, Mr. Fisher said in the House of Commons that "in three years of war some 600,000 children have been withdrawn prematurely from school and become immersed in industry. They are working on munitions, in the fields, and in the mines."² But in October, 1917, the Industrial (War Inquiries) Branch of the Board of Trade, stated that 90,000 boys under fourteen had left school during the war, a figure serious enough, but much smaller than Mr. Fisher's.

¹ Great Britain Ministry of Reconstruction, "Juvenile Employment during the War and After," *Reconstruction Pamphlet*, No. 15, p. 3.

² House of Commons, *Debates*, August 10, 1917, p. 790.

Probably the great majority of the exemptions were for agricultural work. "In this district we are again producing a race of illiterates," reported one rural area. The exemptions were largely the result of the activity of the farmers' associations, which had always opposed compulsory education for the children of their farm laborers and which in most cases controlled the local school boards.¹ Farmers of North Wilts recommended that eleven year old children be released from school for work for which women "were not strong enough." Though probably extra-legal, the exemptions were sanctioned under specified conditions in a circular of the Board of Education to local authorities issued in March, 1915.² Children of school age were to be exempted for "light" and "suitable" agricultural employment in cases of special emergency, when no other labor was available. There was to be no general relaxation of standards, and exemptions were to be made in individual cases and for limited periods only.

Even before the publication of this circular, between September 1, 1914, and January 31, 1915, 1,413 children under fourteen, some of them as young as eleven years, were released from school for farm work. Between February 1 and April 30, 1915, 3,811 children were exempted for this purpose. The number holding excuses on January 31, 1916, was 8,026; on May 31 was 15,753, and on October 31 was 14,915. These figures, moreover, showed only the number of children formally excused by special exemption, not the number actually at work. About half the counties made special by-laws lowering the standard of compulsory attendance required before the war. In Wiltshire, for instance, all children of eleven who had reached the fourth standard were not required to attend school, and only those below that grade who were specially excused appeared in the official lists.³ Then, too, in some places schools were closed at noon or altogether at times of special stress, and

¹ *Labour Year Book*, 1916, pp. 88-89

² Great Britain Board of Education, *Circular 898*, March 12, 1915.

³ United States Bureau of Labor Statistics, *Monthly Review*, June, 1917, p. 889.

in others headmasters were directed to let children of eleven and over leave without record when needed for farm work.¹

It is noteworthy that the policy of granting exemptions was not uniformly followed throughout the country, since some local authorities refused to relax the attendance laws. Twenty-five county councils reported that no children had been excused between February 1 and April 30, 1915. The policy of exemption was strongly opposed by the agricultural laborers' union, and by the whole labor party which brought the matter up in the House of Commons in the spring of 1915, but to little effect. It was charged that the farmers were making use of child labor in order to keep down wages, and that the supply of adult labor would be sufficient if proper wages were paid.

The Board of Agriculture advocated relieving the situation by an increased use of women instead of children. "The Board of Agriculture have expressed the opinion that if the women of the country districts and of England generally took the part they might take in agriculture, it would be unnecessary to sacrifice the children under twelve."²

In the spring of 1916 the Board of Education itself admitted that in some areas exemptions had "been granted too freely and without sufficiently careful ascertainment that the conditions . . . prescribed by the government . . . were fulfilled."³ A circular of February 29, 1916, laid down additional restrictions on excusing children from school.⁴

An interesting clause of the circular "suggested that the urgency of the need for the labor of school children may, to a certain extent, be tested by the amount of wages offered, and as a general rule it may be taken that if the labor of a boy of school age is not worth at least six shillings a

¹ *The Woman Worker*, May, 1916, p. 3.

² Great Britain Board of Education, *Report of the Chief Medical Officer of the Board of Education for 1915*, p. 106.

³ *Ibid.*, p. 103.

⁴ *Ibid.*, Circular 943, February 29, 1916.

week to the farmer, the benefit derived from the boy's employment is not sufficient to compensate for the loss involved by the interruption of the boy's education." In an earlier report the board had noted that only one of the twenty school children reported engaged in farm work by one county was receiving as much as 6s. (\$1.44) weekly.¹

However, the board had no direct power over the local authorities except to reduce its money grants when the number of children in attendance decreased. The number of children excused, according to the statistics just quoted, reached its highest point in May, 1916, which would indicate that the circular had little influence with local officials in reducing the number of country children deprived of schooling to work on the farms.

In 1917 the board again became more favorable to a modification of school requirements. On February 2, in answer to a question in the House of Commons, the president of the Board of Education stated that "greater elasticity" was to be allowed in the school vacations, so that boys over twelve might engage in farm work. For this purpose the Board of Education would give money grants for 320 school sessions annually instead of 400, as usual, provided vacation classes for the younger children were organized.

Fewer children seem to have been released from school for industry or miscellaneous work than for agriculture. Between September, 1914, and February, 1915, only thirty-one children were officially reported excused from school attendance for factory work and 147 for miscellaneous occupations. None of these was less than twelve years old. On account of the small numbers excused the Board of Education did not repeat the inquiry.

Efforts were made, indeed, as early as 1915 to secure exemptions for factory work similar to those in agriculture. Employers' associations urged that children of twelve and thirteen be excused from school. The cotton spinners' and employers' associations sent a joint petition to the Home Secretary asking that children be allowed to begin work

¹ Great Britain Board of Education, *School Attendance and Employment in Agriculture, Returns 1st September, 1914, to 31st January, 1915*, p. 3.

in the cotton mills at thirteen instead of fourteen years. The spinners' union preferred such a lowering of child labor standards to allowing women to become "piecers." Certain government contractors also asked the local education authorities for permission to employ boys of thirteen.

But at the time the official attitude was much less encouraging in regard to exemptions for factory work than for agriculture. The Home Office refused to consent to any relaxation unless the Admiralty or War Office certified that the observance of child labor laws was delaying work necessary to the war.¹ The annual report of the factory inspectors for 1915 mentioned an important prosecution for illegal child labor. The Board of Education was a little more lenient, allowing the local authorities to excuse boys of thirteen under certain prescribed conditions, which included the restriction that the work must be within the boys' physical capacity.² But during at least the earlier months of war "generally in urban areas, the information furnished appears to show that there has been no great variation from the usual practice in the matter. At all times children have been granted exemption in very special circumstances, and the only effect of the war has been that such special circumstances have arisen a little more frequently than they did in normal times."³ The statements as to increases in the number of children under fourteen leaving school would suggest, however, that these comparatively rigid standards were not maintained in the later months of the war.

In addition, it is probable that there has been more than the usual amount of illegal child labor. A note in *The Woman Worker* of January, 1917,⁴ said that the "attention of the Secretary of State has been directed to the prevalence of illegal employment, in factories . . . of children under 12 . . . and children who have not ob-

¹ *Labour Year Book*, 1916, p. 89.

² Great Britain Board of Education, *Annual Report for 1915 of the Chief Medical Officer of the Board of Education*, p. 106.

³ *Ibid.*, *Summary of Returns supplied by Local Education Authorities for the period of September 1, 1914, to January 31, 1915*, p. 4.

⁴ Page 4.

tained exemption from school attendance. . . . It is not countenanced by any of the departments concerned, nor can it be justified by any pretext of war emergency." It was stated that official action against these conditions had been secured. In several cases penalties had already been imposed. "The inspectors of factories are instructed to take rigorous action in respect of any similar offences in future, and without further warning."

Changes in Occupations of Boys and Girls

Certain effects of the war on boys' work were noted very early. By the end of 1914 it was observed that in factories strong boys, who had been apprentices or helpers, were being pushed ahead to the work of skilled men, while women and girls were taking their places. Such "indirect" substitution continued frequently to be the first change made when women were introduced into new lines of work.¹ The Ministry of Munitions made some effort to keep boys away from shell and fuse making and other forms of purely repetitive work, and to encourage them to take up lines which would make them skilled artisans.² But on the whole the number of boys entering skilled trades and starting apprenticeships greatly declined, for unskilled work at high wages was offered by munitions plants and other forms of war equipment, and many parents, under the unsettled conditions of war, were unwilling to have their sons bind themselves for a term of years.

Girls, like adult women, entered many new lines of work for the first time during the war, and there are but few facts to distinguish between the two groups of workers. The girls were used in boys' places for running errands, on wagons and other forms of delivery work—which had been much complained of as a "blind alley" for boys—in banks, and in retail shops. The tendency to transfer boys to men's work and girls to boys' work was also noted in textile mills, boot and shoe and tobacco factories, iron foundries and

¹ *Vide* p. 123.

² Great Britain Ministry of Munitions, *Dilution of Labour Bulletin*, February, 1916, p. 2.

some parts of the engineering trade. In nearly every instance such employment was uneducative. There appeared to be also a greatly increased demand for girls in some cities in clerical work. In the new openings on munitions work and other forms of army equipment their work has not been clearly marked off from that done by adult women. Complaints were made in March, 1917, that it was difficult to induce young girls to enter anything but the munitions industry.¹ The glamor and excitement of direct assistance to the war undoubtedly made its strongest appeal to girls of this impressionable age.

A feature almost unknown previous to the war was the movement of boys and girls under seventeen years of age from their homes to work at a distance. The *Labour Gazette* stated of the movement:

It has, to a limited extent, been found desirable to draft boys and girls from areas where their services are not much in demand to districts where there is a scanty supply of labor for essential industries or where opportunities for training in skilled employments are available. Where such migration has been carried out through the exchanges special arrangements have been made to secure the welfare of the boys and girls in their new sphere.²

Supervision of the boys and girls thus removed from home care and training, naturally a most serious responsibility, was carried out mainly by the advisory committees on juvenile employment, which had been formed in connection with many exchanges before the war for the vocational guidance of young workers. In the case of young girls the work also came under the duties of the local committees on "women's war employment." As "welfare supervision" was developed by the Ministry of Munitions, the supervisors, and later the "outside welfare officers," were likewise instructed to give attention to the matter.

¹ *London Times*, Educational Supplement, March 15, 1917.

² February, 1917, p. 49.

Wages

According to information from several sources the rise in wages during the war was perhaps more marked among boys and girls under eighteen than among any other class of workers. Boys and girls in munitions factories in certain parts of the country were often able to earn from £1 (\$4.80) to £2 (\$9.60) a week—the latter as much as many skilled men received previous to the war.¹

The Ministry of Reconstruction's Committee on Juvenile Employment reported that competition for workers drove boys' wages up 50 per cent within a few months after the beginning of the war, and at the end of a year the rise was 75 to 100 per cent. At the repetition piece work with automatic machinery, common in munition factories, "many of the boys earned amounts that previously were associated with the earnings of men, while here and there cases could be found where their earnings were equivalent to, or even more than, those of the skilled foremen who supervised their work. Rumor naturally exaggerated the real position, but there was plenty of evidence available to justify many of the stories that were current as to boys' earnings." It was noted that "boys do not seem to mind monotonous work if they are well paid for it," and rates for the older boys were at times actually higher for unskilled and semi-skilled than for skilled occupations. In one typical munitions district their wages averaged somewhat as follows:²

Age	Unskilled	Semi-skilled	Skilled
14	3-3½d. an Hr.	4-4½d.	4-4½d.
15		4½d.	5-6d.
16	6d.	6d.	5d.
17	7d.	7d.	6d.

The rates fixed by the Ministry of Munitions for girls under eighteen indicated the high level reached in their wages also. For girls under sixteen they were roughly equivalent to the minima fixed by the trade boards for

¹ *The Labour Woman*, August, 1916, p. 44.

² Great Britain Ministry of Reconstruction, "Juvenile Employment during the War and After," *Reconstruction Pamphlet*, No. 15, p. 27.

adult women, and were somewhat higher for girls between sixteen and eighteen. The increases granted up to the end of the war made the standard weekly time rate on "men's work" 23s. 9d. (\$5.70) for girls under sixteen, 25s. 9d. (\$6.18) for girls of sixteen, and 27s. 9d. (\$6.66) for those of seventeen. On piece work 30 per cent for girls under sixteen, 20 per cent at sixteen, and 10 per cent at seventeen was deducted from the rates of adult women.

Hours

Along with the relaxation of hour limitations on women's work, the similar restrictions on "protected persons" under eighteen were modified. The result of the relaxation of standards was thus described by the Health of Munition Workers Committee:

The weekly hours have frequently been extended to sixty-seven, and in some instances even longer hours have been worked. The daily hours of employment have been extended to 14, and occasionally even to 15 hours; night work has been common; Sunday work has also been allowed, though latterly it has been largely discontinued.¹

Working hours for boys under eighteen were given more specifically in an "inquiry into the health of male munition workers," made for the committee between February and August, 1916. The investigation followed the same lines as its companion study on the health of female workers, including an examination of over 1,500 boys under eighteen and their working conditions. It was found that "large numbers of boys," many of them just over fourteen, were "working a net average of sixty-eight and one-half hours per week." In some cases boys under fourteen had a forty-eight hour week, "but in others boys of eighteen were found to be working an average of over eighty hours per week and it was ascertained that they had worked ninety and even a hundred hours per week."²

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 13*, "Juvenile Employment," 1916, p. 4.

² *Ibid.*, *Interim Report*, 1917, p. 103.

It is not surprising that the investigator concluded that "hours tend to be too long for the proper preservation of health and efficiency."

In most cases the Home Office claimed that it had allowed Sunday work only under rather strict conditions. "The Home Office, as a rule, only authorizes Sunday work on condition that each boy or girl employed on Sunday shall be given a day in the same week, or as part of a system of 8 hour shifts in which provision is made for weekly or fortnightly periods of rest. Apart from this, permission for boys over 16 to be employed periodically on Sunday was on July 1 last [1916] only allowed in seven cases, and in three cases for boys under 16. In only one instance are boys employed every Sunday, but this is limited to boys over 16, and the total weekly hours are only about 56. In only one case are girls employed periodically on Sunday, and there the concession is confined to girls over 16."¹ The employment of girls under 16 at night had been permitted only "in one or two cases . . . through exceptional circumstances." In March, 1916, it was stated that the cases were "under review with the object of arranging for the discontinuance of such employment at the earliest possible moment."

The recommendations of the Health of Munition Workers Committee called for a considerable improvement in these standards. "The hours prescribed by the factory act [sixty] are to be regarded as the maximum ordinarily justifiable, and even exceed materially what many experienced employers regard as the longest period for which boys and girls can usefully be employed from the point of view of either health or output." Nevertheless, "in view of the extent to which boys are employed to assist adult male workers and of limitation of supply, the committee, though with great hesitation, recommend that boys should be allowed to be employed on overtime up to the maximum suggested for men, but every effort should be made not to work boys under 16 more than sixty hours per week. Where

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 13*, "Juvenile Employment," p. 5.

overtime is allowed substantial relief should be insisted upon at the week ends, and should be so arranged as to permit of some outdoor recreation on Saturday afternoon." But for girls "similar difficulties did not often arise," and the committee advised weekly hours of sixty or less and brought forward the claims of the eight hour, three shift system. Under the exceptional circumstances existing, the committee believed that overtime might be continued on not more than three days a week for both boys and girls, provided the specified weekly total of hours was not exceeded.

The absolute discontinuance of Sunday work was strongly advised. "The arguments in favor of a weekly period of rest . . . apply with special force in the case of boys and girls; they are less fitted to resist the strain of unrelieved toil, and are more quickly affected by monotony of work. . . . It is greatly to be hoped that all Sunday work will shortly be completely stopped."

In regard to night work, an earlier report of the committee,¹ published in January, 1916, held that girls under eighteen should not be employed on a night shift "unless the need is urgent and the supply of women workers is insufficient. In such cases the employment should be restricted to girls over 16 years of age, carefully selected for the work." But for boys, "it does not seem practical to suggest any change of system, but the committee hope that care will be taken to watch the effect of night work on individual boys and to limit it as far as possible to those over 16." In the subsequent memorandum on "Juvenile Employment," the committee "remained of the opinion that girls under eighteen and boys under sixteen should only be employed at night if other labor can not be obtained. Wherever possible it should be stopped."

The interdepartmental committee on hours of labor, organized late in 1915, which based its action on the recommendations of the Health of Munition Workers Committee,

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 5*, "Hours of Work," pp. 7-8.

was instrumental in securing improved regulations for protected persons in munition factories as well as for women. The general order of September 9, 1916, made special arrangements for boys and girls over and under sixteen, respectively. Sunday work was abolished for each of these classes of workers. The maximum working week for girls was to be sixty hours, as before the war. But girls between sixteen and eighteen, like adult women, might work overtime on three days a week, provided the weekly maximum was not exceeded. Boys over sixteen were permitted to work as much as sixty-five hours a week, on three days a week as long as twelve hours and a quarter, and twelve hours on other week days. Under this scheme work on Saturday must stop not later than 2 p. m. In "cases where the work was of a specially urgent character," the twelve hour day and sixty-five hour week, but not the overtime, might be worked by boys of fourteen.¹ The committee had already forbidden the employment of girls under sixteen at night. The prohibition was extended by the general order to boys under fourteen and girls under eighteen, and boys under sixteen were allowed to do night work only in "urgent" cases.

¹ Following is the section of the general order regulating hours for boys under eighteen:

Scheme D. (Overtime for Boys.)

This scheme applies to male young persons of 16 years of age and over provided that the superintending inspector of factories shall have power in cases where the work is of a specially urgent character to extend the application of the scheme to male young persons between 14 and 16 years of age.

Such young persons may be employed overtime on week days other than Saturday subject to the following conditions:

- (1) The total hours worked per week (exclusive of intervals for meals) shall not exceed 65.
- (2) The daily period of employment (including overtime and intervals for meals)
 - (a) Shall not commence earlier than 6 a.m. or end later than 10 p.m.
 - (b) Shall not exceed 14 hours.

Provided that where overtime is worked on not more than 3 days in the week the period of employment may in the case of boys of 16 years of age and over be 15 hours.

- (3) Intervals for meals amounting to not less than 1½ hours shall be allowed during the period of employment with an additional half hour if the period of employment is more than 13½ hours or an additional three-fourths of an hour if the period of employment is 15 hours.

- (4) On Saturday the period of employment shall end not later than 2 p.m.

Long as these hours seem according to American standards, they undoubtedly represented a considerable reduction from the hours worked by many munition plants during the early months of the war. But it is doubtful if these standards were completely reached even in the latter part of the struggle. An official report published shortly after the armistice admits that "boys and girls of fourteen and fifteen have been working for as much as twelve hours a day, sometimes more, and have been employed for considerable periods on night work."¹ The Health of Munition Workers Committee, in its final report dated April, 1918, was still obliged to recommend the discontinuance of night work by girls between sixteen and eighteen and urged that it was "undesirable" for boys under sixteen, though in both cases it was decreasing. "Special concessions" allowing girls under sixteen to work at night had by that time been withdrawn.

Safety, Health and Comfort

The action of the Ministry of Munitions looking to the betterment of working conditions for women and girl munition workers, and the "welfare" movement which followed in other industrial occupations were described in the section on women workers.

The Ministry of Munitions urged the extension of "welfare supervision," on which it laid much stress, to boys as well as to women and girls. Such action was among the recommendations of the Health of Munition Workers Committee:

In the past the need for the welfare supervision of boys has not been so widely recognized as in the case of women and girls; present conditions have, however, served to call attention to its urgency and it is receiving the attention of an increasing number of employers. Boys fresh from the discipline of a well-ordered school need help and friendly supervision in the unfam-

¹ Great Britain Ministry of Reconstruction, "Juvenile Employment during the War and After," *Pamphlets on Reconstruction Problems*, No. 15, p. 8.

miliar turmoil of their new surroundings. They are not men and can not be treated as such. On the other hand, high wages and the absence of the father have frequently tended to relax home control. Long hours of work prevent attendance at clubs; healthy and organized recreation is seldom available. As might be anticipated under these circumstances, complaint is often made of boys leaving their work after a few days or playing truant; this may be the result of slackness and discontent, or the cause may be found in fatigue, sickness or perhaps home troubles. If smooth working is to be secured, the real causes of such discontent and trouble must be ascertained and appreciated. Experience, however, shows that the problems involved are outside and distinct from those of ordinary factory discipline, and they are likely to remain unsolved unless someone is specially deputed for the purpose.¹

The Ministry's instructions to the "investigating officers," who visited munition plants for the labor regulation department, also drew attention to the need for "welfare supervision" of boys. "Since it is recognized on all hands that there is a danger of deterioration in the working boy between the ages of 14 and 18, it is of urgent national importance that the boy should be brought under careful supervision during these critical years of his life." The duties of such a supervisor as outlined in this and other official circulars, were similar to those of the "welfare workers" for women and girls, with perhaps more emphasis on training and advancement. A "welfare supervisor of boys" or "boy visitor" should attend to their hiring, discipline, and dismissal, and should watch their progress and recommend for promotion, arrange opportunities for recreation, technical education and saving, and take charge of the health arrangements.

In its final report, in April, 1918, the Health of Munition Workers Committee stated that about 150 supervisors had been appointed during the previous year from a panel

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 13*, "Juvenile Employment," p. 6.

established by the Ministry of Munitions. Most of them were wounded army officers who had been discharged from active service. In many cases until they were appointed proper use was not made of the health and comfort facilities installed at the suggestion of the Ministry's "Welfare Section."

Following the advice of these inspectors, employers often installed canteens, washing facilities, first-aid arrangements and other improvements in the factory. However, these usually remained unused. Canteens were generally deserted, since boys preferred to carry their food from home; wash rooms were abused rather than used, for crumpled towels made excellent footballs and soap a convenient missile; while few boys would bother going to the first aid kit for what they regarded as a mere cut.

In spite, therefore, of the apparent opening for welfare supervision of working boys, it developed but slowly. The lack of suitable candidates, owing to the demands of military service, was a serious handicap, though at the time of its report the committee thought it had been "started on sound lines."

The need for the welfare supervision of boys has not been so readily appreciated as in the case of women and girls, and time has been required for obtaining the support of the foremen and the local trades unions as well as of the employer. These initial difficulties have, however, not been without their advantages in preventing hasty or ill-considered schemes.

Other indications of the growth of the movement were the formation of a "Boys' Welfare Association" by leading engineering firms, and of a "Royal Ordnance Factories Trade Lads' Association" composed of the boys themselves, which drew its members principally from Woolwich Arsenal. To coordinate the various clubs, cadet corps and other organizations started by philanthropists, the

Home Office established a "Juvenile Organizations Committee" in the latter part of 1916, to affiliate and coordinate all such clubs, and in some cases to arrange financial aid. The committee took steps to have local committees formed in all the larger cities. Some criticism was made of the action by the Home Office on the ground that the matter was within the province of the Board of Education. The latter body issued a circular in December, 1916, inviting the local authorities to allow the use of unoccupied schools in the evening for recreation purposes. In August, 1917, it allowed grants for evening play centers.

Effects of War Work on Boys and Girls

Nevertheless, in spite of the various "welfare" efforts evidence comes from many sources that war work had some most unfortunate effects on both the health and the character of a considerable number of boys and girls. "The view of those best competent to judge is that in the generation which entered industry between 1914 and 1918 vitality has been lowered, morale undermined and training neglected," said the Committee on Juvenile Employment.

The high wages for unskilled work, absence of fathers in the army and of mothers in munitions work, excessive hours of labor and greater pressure of work, interruption of club and other recreational and educational provisions, the darkened streets and the general excitement of war time were among the principal factors blamed for the change.

A vivid summary of the situation was made in March, 1917, in the *Final Report* of the Departmental Committee on Juvenile Education with Special Reference to Employment after the War, which gave a depressing picture of the effect of the war on working boys and girls.

Upon this educational and industrial chaos has come the war to aggravate conditions that could hardly be made graver, and to emphasize a problem that needed no emphasis. Many children have been withdrawn at

an even earlier age than usual from day schools, and the attendances at those evening schools which have not been closed show a lamentable shrinkage. We are not prepared to say that much of the work which is now being done by juveniles in munition factories and elsewhere is in itself inferior to the work which most of them would have been doing in normal times, but there can be no doubt that many of the tendencies adversely affecting the development of character and efficiency have incidentally been accentuated. . . . Parental control, so far as it formerly existed, has been relaxed, largely through the absence of fathers of families from their homes. Wages have been exceptionally high, and although this has led to an improved standard of living, it has also, in ill-regulated households, induced habits of foolish and mischievous extravagance. Even the ordinary discipline of the workshop has in varying degrees given way; while the withdrawal of influences making for the social improvement of boys and girls has in many districts been followed by noticeable deterioration in behavior and morality. Gambling has increased. Excessive hours of strenuous labor have overtaxed the powers of young people; while many have taken advantage of the extraordinary demand for juvenile labor to change even more rapidly than usual from one blind alley employment to another.

Among boy and girl munition workers evidences of a breakdown in health were perhaps not general, but in a good many cases children working at night or long hours were found to show signs of exhaustion. In the 1915 report of the chief inspector of factories the principal lady inspector stated:

Miss Constance Smith has been much impressed by the marked difference in outward effect produced by night employment on adult and adolescent workers. "Very young girls show almost immediately, in my experience, symptoms of lassitude, exhaustion and impaired vitality under the influence of employment at

night." A very strong similar impression was made on me by the appearance of large numbers of young boys who had been working at munitions for a long time on alternate day and night shifts.

The special investigator of the "health of male munition workers" noted that 51 per cent of the 900 boys in one large factory complained of sleepiness and weariness on the night shift. "It is contrary to the laws of nature for young children—for such many of these are—to be able to turn night into day without feeling an effect. . . . On the night shifts, boys do not tolerate well long hours. It has to be borne in mind that the average age of the boys examined would certainly not exceed 15 years, and it makes one consider very seriously the future of the rising generation."

The same inquiry brought out the unfavorable effects of long daily hours of work on young boys. While among all the 1,500 boys examined "no very gross degree of ill health was prevalent," 10.6 per cent of those working more than 60 hours weekly, and only 6.7 per cent of those working less than 60 hours, were not in "good" physical condition. "This difference is a serious one." In the heavy trades "the effect upon the boys was commencing to show itself. Many though little more than fourteen were working twelve hour shifts and doing heavy work. The boys in these shops manipulate heavy pieces of steel at a temperature of 900° F. They struck me as being considerably overworked; they looked dull and spiritless, and conversation with them gave the impression that they were languid. In fact, all the boys in this group were working far too hard."

The investigator contrasted with the poor condition of many boy munition workers the "healthy and intelligent appearance" of the boys in one factory where comparatively short hours, no night work and free Saturday afternoons and Sundays gave them time for outdoor play. "On the other hand, many of the boys I examined at other factories are showing definite signs of the wear and

tear to which they are subjected. Pale, anemic, dull and expressionless, their conditions would excite great commiseration. Conditions outside the factory contribute their share and if the war is to continue for a long time and these boys remain subject to conditions such as described, the effect upon their general health will be difficult to remedy."

As with women, long periods spent in transit, insufficient sleep and overcrowded homes, in addition to excessive hours of factory work, often affected the health of working boys and girls. "While engaged for twelve hours per day in the factory," it was said of boy munition makers, "they spend in a large number of cases from two and one-half hours to four hours traveling to and from their homes. . . . These hours, added to the working hours, leave very little time for meals at home, recreation or sleep." Many boys and girls failed to get enough sleep because of "the temptations of the cinema and the amusements of the street." In many cases, even when wages were high, the Health of Munition Workers Committee found that three persons occupied a single bed and four or five shared a room. The following cases were given as typical. A boy of fourteen, earning about 19s. (\$4.56) weekly, slept in the same bed with two young men, while two young girls occupied another bed in the same room. A boy of sixteen, with wages averaging 22s. (\$5.28) a week shared a bed with another boy, while another boy and a girl slept in the same room.

The deterioration in character among working boys was apparently even more marked than the decline in health. According to Mr. Leeson juvenile delinquency was 34 per cent greater during the three months ending February, 1916, than for a similar period in the previous year. In Manchester, the increase was 56 per cent; in Edinburgh it was 46 per cent. The delinquency of boys twelve and thirteen, the ages for which most of the school exemptions were issued, had increased in greater proportion than that

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Interim Report*, p. 103.

of any other age group. In the London police district and ten large cities the number of children convicted by Juvenile Courts increased from 11,176 in 1914 to 16,283 in 1917.

"When every allowance has been made for the inclination of each generation to despair of the next," said the special Committee on Juvenile Employment during the War. "it is difficult to resist the conclusion that a strain has been put upon the character of boys and girls between fourteen and eighteen which might have corrupted the integrity of Washington, and undermined the energy of Samuel Smiles. The story of a boy who met his father's attempt to assert parental authority with the retort, 'Wait to talk till you have earned as much as I have,' is hardly a caricature of the immense accession both of earnings and of importance which has come, sometimes to their misfortune, to lads of sixteen and seventeen."

In feverish eagerness the boys spent their time wandering from shop to shop, from work to works, making short stays, frequently of only one or two weeks, in search of the new El Dorado. Indentures were thrown to the winds; places where useful trades could be learned were left behind; entreaties of employers were rejected; parents were often treated with indifference. The persistence with which the boys took up the trail to the great machine shops and to the great national factories or to any other place where the processes were repetitive and the contracts ran into millions, can be compared almost to the rush to the Klondyke. . . .

Fearful that such large earnings would only be temporary, they apparently determined to make hay while the sun shone. They began to assume the independence which their comparatively large incomes seemed to justify. They sometimes became reckless, spendthrift and extravagant. The gambling instinct was kindled, the longing for adventure became acute. The boys became restless and unstable in the works. Avarice

begat avarice, until, in some cases, the boys set such a value on their labor as to make them appear almost ridiculous.¹

Even certain labor organizations, which are generally bitterly opposed to all such plans, advocated attention to schemes of compulsory saving or deferred payment, as a means of preventing the waste of abnormally high wages.²

Almost the only hopeful feature of the effect of the war on working children is a changed point of view regarding their future needs. The bad conditions, together with the losses of the great war, roused greater interest in the conservation of childhood. The chapter on "Peace and Reconstruction" will trace the growth of the movement which, with respect to working children, recognizes that many of them should be taken out of the labor market altogether, that their opportunities for education should be improved, and that their first years of work should be better supervised.

¹ Great Britain Ministry of Reconstruction, "Juvenile Employment during the War and After," *Reconstruction Pamphlet No. 15*, p. 24.

² *The Labour Woman*, July, 1916, p. 34.

CHAPTER XIV

Effects of War Work on Women

The tremendous movement of women into industry and the shifting from low paid to high paid occupations have given a foundation for a permanent improvement in the economic status of women, and it is hoped that their new independence and interest in public affairs will survive postwar adjustments and remain as a permanent asset. The physical endurance of many of the women doing war work was a matter of constant comment. But the increase in the tuberculosis death rates suggests that the final results of intensive and difficult work have not yet been determined. However, certain definite effects of war work upon the health, home life and personality of women and children should be noted.

Health of Women War Workers

Definite investigations of the health of women workers were mainly confined to the munitions industry and were made by the Health of Munition Workers Committee. The general conclusion of the committee that by the latter months of 1915 the health of the munition makers, both men and women, had been injured through overwork, has been much quoted in the United States:

Taking the country as a whole, the committee are bound to record their impression that the munition workers in general have been allowed to reach a state of reduced efficiency and lowered health which might have been avoided without reduction of output by attention to the details of daily and weekly rests.

The committee's statements about female workers alone were of similar tenor:

The committee are satisfied that there is a significant amount of physical disability among women in factories which calls both for prevention and treatment . . . the lifting and carrying of heavy weights and all sudden, violent, or physically unsuitable movements in the operation of machines should, as far as practicable, be avoided. . . . Prolonged standing should be restricted to work from which it is inseparable.

Conditions of work are accepted without question and without complaint which, immediately detrimental to output, would, if continued, be ultimately disastrous to health. It is for the nation to safeguard the devotion of its workers by its foresight and watchfulness lest irreparable harm be done body and mind both in this generation and the next.

The committee desire to state that, in their opinion, if the present long hours, the lack of helpful and sympathetic oversight, the inability to obtain good, wholesome food, and the great difficulties of traveling are allowed to continue it will be impracticable to secure or maintain for an extended period the high maximum output of which women are undoubtedly capable.¹

The conclusions of the factory inspectors in 1915 as to the health of women munition makers and the results of later investigation under the auspices of the committee reiterate similar though perhaps slightly more favorable conclusions. "Reports of inspectors from all parts of the country" did not show that, as yet, the strain of long hours had caused "any serious breakdown among the workers," though there were "indications of fatigue of a less serious kind." "Individual workers confess to feeling tired and to becoming 'stale'; there are complaints of bad time keeping, and there is a general tendency towards a reduction of hours."²

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 4*, "Employment of Women," pp. 3, 10.

² Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, pp. 9-10.

Two examinations of the health of large numbers of women munition workers were made for the Health of Munition Workers Committee, the first in 1915-1916 and the second in 1917. The first covered 1,326 women in eleven factories and the second 1,183 women in eight factories. In both examinations nearly 60 per cent of the women were pronounced "healthy," about a third showed evidences of slight fatigue and only the small remainder exhibited signs of "marked fatigue."

Date of Study	No. of Women Examined	No. of Factories	Per Cent Healthy	Per cent Slightly Fatigued	Per cent Markedly Fatigued
1915-1916	1,326	11	57.5	34.0	8.5
1917	1,183	8	58.5	35.8	5.7

But these results were not believed to show the full burden of overwork, since much was unrecognizable and since those worst affected tended to drop out. The examination could only detect "definite and obvious fatigue, amounting almost to sickness. The physical defects most frequently observed included indigestion, serious dental decay, nervous irritability, headache, anemia and female disorders. These were found in about a quarter of the women examined, but it is not stated whether any of them were supposed to result from the employment.

In the manufacture of fuses, where fine processes involving close attention were in use, some evidences of eye strain were found. In one factory 64 per cent of the women in the fuse department had eye defects, while only 19 per cent of those cutting shells by machine were similarly affected.²

Another hazard to the overfatigued woman worker is suggested by the increase in industrial accidents under the stress of long hours. With a twelve hour day and seventy-five hour week, accidents to women were two and a half times as frequent in one munition factory as when the shifts were reduced to ten hours. At another shell factory, when

¹ Great Britain Ministry of Munitions, Health of Munition Workers' Committee, *Final Report*, April, 1918, pp. 21-22.

² *Ibid.*, p. 72.

the working hours of men and women were equalized, lengthening the women's week nine and three quarters hours and reducing the men's nine and a quarter, the ratio of women's to men's accidents rose 19 per cent for the day shift and 61 per cent for the night shift.

Factors likely to be injurious to health included the frequent twelve hour shifts and the premium bonus system of payment. There were numerous complaints of the strain of twelve hour shifts, which usually entailed ten and a half hours of actual work. Particularly in the case of married women with children the strain of these hours appeared to be excessive. The factory inspectors stated in 1915 that especially at night the twelve hour shift "for any length of time for women . . . is undoubtedly trying, and permissible only for war emergencies with careful make-weights in the way of good food and welfare arrangements."¹ The last hours of the twelve hour night shift were often found to yield but little additional output.

Such a judgment is not surprising when the nature of the work frequently done by women munition makers is considered. To be sure, such work as filling shells with explosive mixtures was easy and semi-automatic; but other tasks, for example, examining and gauging, although light, took much attention and exactness; and some work, such as turning shells, was comparatively heavy. In lifting shells in and out of the lathe women were obliged to stretch over the machine, which involved a considerable strain on the arms with the heavier shells. For shells over 40-50 pounds, special lifting apparatus was generally provided, or a male laborer used to lift the shell, but women, in their haste to proceed, sometimes failed to wait for help. A number of compensation cases have arisen in which women were seriously injured by heavy lifting. Yet a woman physician who had medical supervision of several thousand workers from April, 1916, to November, 1918, decided that if women were chosen with care they could perform without risk

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1915*, p. 14.

operations formerly thought beyond their powers. The employes in question were expected to lift shells up to sixty pounds without special appliances, but women with pelvic or abdominal defects were not allowed to enter this work.¹ Ten and a half hours, however, of the heavier work might prove to be a serious strain.

• Moreover, long train journeys were frequently necessary, adding two or three hours to the time spent away from home. Out of seventy-five women whose working hours began at 6 a.m. and ended at 8 p.m., none had time for more than about seven and a half hours' sleep, and many of them less than seven hours. Only nineteen of these women were over twenty years of age.

The premium bonus systems of payment, which became more and more common, provided increased rates for increased output. In some cases such systems were said to have proved "a strong temptation to injurious overexertion." One example was that of a woman who had "won a 'shift' bonus by turning out 132 shells (nose-profiling) in one shift where the normal output was 100 shells, and had had, as a result, to remain in bed on the following day. When it was pointed out to her later that she had acted foolishly, her reply was that she knew but she 'wasn't going to be beat.'"²

As counteracting influences to these strains, several factors were brought forward. Improved pay, and the more nourishing food, better clothing and living conditions which women workers were often enabled to secure were mentioned by a number of authorities, including the Health of Munition Workers Committee, the factory inspectors, the Association for the Advancement of Science, and the War Cabinet Committee on women in industry. "The dietary was in most cases more ample and suitable than the workers had been used to previously," said the investigators for the Health of Munition Workers Committee.

¹ Dr. Rhoda H. B. Adamson, "Future Possibilities for the Work of Women," *Common Cause*, February 7, 1919, pp. 512-514.

² British Association for the Advancement of Science, *Labour, Finance, and the War*, p. 117.

It has been observed that many well paid women gave up the supposedly feminine habit of living on bread and tea for substantial meals of meat and vegetables. The British Association for the Advancement of Science noted a higher "physical and mental tone" due to the better standards permitted by higher wages. The health of low paid workers frequently improved after entering munitions work.¹ The improvements in factory sanitation encouraged by the Ministry of Munitions were likewise helpful in decreasing the risks to health, and the patriotic spirit of the women also received mention as a partial preventive of fatigue. "The excitement of doing 'war work' and making munitions added a zest and interest to the work which tended to lessen the fatigue experienced," said the physicians who investigated the health of women munition workers for the Health of Munition Workers Committee.

Effects of Night Work

It is generally believed that the wisdom of forbidding night work by women has been clearly demonstrated by experience during the war. Women, especially married women, did not stand night work as well as men. The British Association for the Advancement of Science said, in April, 1916:

It would be well if the experience of those industries in which night work has become a temporary necessity could be made widely known. The adverse effects on output, not to mention the lowering of the health of the workers, should be a sufficient safeguard against any attempt permanently to remove the factory act restriction.²

The earlier investigations of the Health of Munition Workers Committee also confirmed the dangers of night work for women. In one factory visited at night fatigue was found to prevent many of the women from getting a

¹ *Labour, Finance, and the War*, p. 129.

² *Ibid.*, p. 84.

meal at the rest period. In another "several women were lying, during the meal hour, beside their piles of heaped-up work, while others, later, were asleep beside their machines."¹

The night work in munition factories had once more emphasized, said the committee, the "half forgotten facts" about its injurious effects on women. "In a working class home the difficulty in obtaining rest by day is great; quiet can not be easily secured; and the mother of a family can not sleep while the claims of children and home are pressing upon her; the younger unmarried women are tempted to take the daylight hours for amusement or shopping; moreover, sleep is often interrupted in order that the mid-day meal may be "shared."

It must be acknowledged, however, that in its later interim report the committee was somewhat less unfavorable to night work by women. While it was found that continuous night work reduced output, a group of women on alternate weeks of day and night work lost less time than when on continuous day work. The committee did not, to be sure, consider night work desirable, but inevitable during the war emergency as long as production must be increased to its highest point. Because they were especially likely to do housework during the day and to get very little sleep, the physicians who examined women munition workers believed night work to be "too heavy a burden for the average married women."

Aside from munitions work, the principal evidence as to health conditions concerned women who were replacing men on outdoor work. Observers generally expressed surprise at the improvement in health and appetite which took place, even when the work was heavy. Fresh air, better wages and better food were believed to account for the gains in health. Some of the women who became railway porters found the work too heavy, however, and the nervous strain often proved excessive for women tram drivers.

A possible decline in health among women workers in

¹ Great Britain Ministry of Munitions, Health of Munition Workers Committee, *Memorandum No. 4*, "Employment of Women," p. 4.

general is suggested by the fact of a 6 per cent increase in the death rate from tuberculosis among women under forty-five which took place between 1914 and 1916. The Registrar General of Vital Statistics suggested that this occurred because—

Many thousands of women are now for the first time subjected to the workshop conditions which have probably tended so much to maintain the mortality of males at working ages in recent years. Young women of the most susceptible ages have thus been subject to risks of infection as well as of pulmonary disease predisposing to tubercle which they would have escaped in following their normal occupations; and both from this cause and from the effect of workshop conditions on women already infected a number of women have probably died who would have survived under peace conditions.

Special studies were made by the Health Insurance Medical Research Committee to test this hypothesis, and they felt, that "further evidence favoured its accuracy."¹

Summing up the none too comprehensive evidence on the effects of four years' war work on the health of women workers, the War Cabinet Committee on women in industry did not feel that any extensive breakdown in health had occurred. Higher real wages often led to better nutrition and greater comfort, health supervision within the factory diminished preventable sickness and the nature of the work frequently stimulated the women's interest and improved their health and physical capacity. Yet "it is undoubted that a considerable amount of fatigue and sickness has occurred." The rise in the tuberculosis death rate was held to be significant. The strain was believed greatest among married women who had to carry the double burden of industrial work and domestic responsibilities. But on the whole the war demonstrated that women workers had

¹ *An Inquiry into the Prevalence and Aetiology of Tuberculosis among Industrial Workers, with Special Reference to Female Munition Workers*, p. 4.

a greater reserve of energy than they had been credited with and might safely enter "more varied and arduous occupations" than had been thought desirable before the war.

Effects of War Work on Home Life

Unfortunately it seems probable that conditions of work in the munition centers have been such as to have a disintegrating effect on home life. Long working hours, frequent long train trips in addition to those hours, overcrowded houses, the increased employment of married women and of women at a distance from their homes have all contributed to this result.

Two quotations, one from official, the other from labor sources, illustrate the way in which home life was too often disrupted by munitions work. According to the first:

While the urgent necessity for women's work remains, and while the mother's time and the time of the elder girls is largely given to the making of munitions, the home and the younger children must inevitably suffer. Where home conditions are bad, as they frequently are, where a long working day is aggravated by long hours of traveling and where, in addition, housing accommodation is inadequate, family life is defaced beyond recognition. . . . Often far from offering a rest from the fatigue of the day, the home conditions offer but fresh aggravation. A day begun at 4 or even 3.30 a.m. for work at 6 a.m., followed by 14 hours in the factory and another 2 or 2½ hours on the journey back, may end at 10 or 10.30 p.m., in a home or lodging where the prevailing degree of overcrowding precludes all possibility of comfortable rest. In such conditions of confusion, pressure and overcrowding, home can have no existence.¹

Beginning January, 1916, attention to the "welfare" of women workers outside the factory by the Ministry of

¹ Great Britain Ministry of Munitions, Health of Mmunition Workers Committee, *Memorandum No. 4*, "Employment of Women," p. 5.

Munitions no doubt often improved the conditions. But early in 1917 a committee of women labor leaders still felt that home life had in many cases been disorganized.

The result of war conditions has naturally been very marked in its effects on the health and well being of the women and children at home. The demand for the work of women . . . has been such that a large number of married women have been pressed into industrial employment. This means, on the one hand, a certain neglect of the duty of keeping their homes, and on the other an extra and heavy burden on their strength in order to fulfil, however inadequately, some part of these necessary duties. The children, as well as the women, have suffered from these results.¹

To be sure, in the first months of the war the increase in family income had often meant better food, but even this advantage tended to disappear with the rapid rise in prices and the actual scarcity of certain products which occurred from time to time.

Development of Personality in Women War Workers

Nevertheless, surprising as it may seem in view of the harm which war work appears often to have done to home life and sometimes to health, the development of the woman industrial worker under it may prove to be one of the most important changes wrought by the conflict.

An interesting article in *The New Statesman*² suggested that "three years of war have been enough to effect an amazing transformation," in the average factory woman, especially in the munition centers. They had gained an independence and an interest in impersonal affairs seldom found before the war. "They appear more alert, more critical of the conditions under which they work, more ready to make a stand against injustice than their prewar selves or their prototypes. They seem to have wider in-

¹ Committee of Industrial Women's Organizations, *The Position of Women After the War*, p. 9.

² June 23, 1917, p. 271.

terests and more corporate feeling. They have a keener appetite for experience and pleasure and a tendency quite new to their class to protest against wrongs even before they become intolerable." It is "not that an entire class has been reborn, but that the average factory woman is less helpless, and that the class is evolving its own leaders." The writer ascribed the change in the main to a wider choice of employments, occasional gains in real wages, praise of the women's value in war service, and their discontent with the operation of the munitions acts and other government measures:

Again, the brains of the girl worker have been sharpened by the discontent of her family. She is living in an atmosphere of discontent with almost all established things. There is discontent because of the high prices of milk and meat, because of the scarcity of potatoes, sugar, butter or margarine, because of the indigestible quality of the war bread, because of the increased railway fares and the big profits of many employers and contractors. There is discontent with the discipline of the army, with the humiliating position of brothers and husbands and sweethearts who are privates, with the inadequacy of army pensions and the delay in giving them. There is rage against the munitions act, against munitions tribunals and military tribunals. Every member of the family has his or her grievance. The father perhaps is a skilled engineer and is afraid that he is being robbed of the value of his skill by the process of dilution. The eldest son is in the army, and perhaps sends home tales of petty tyrannies, and minor, avoidable irritations. Another son, with incurable physical defects, is forced into the army and falls dangerously ill. One daughter goes to another town to work in a munitions factory, can not get a leaving certificate, and barely earns enough to pay for board and lodging. Thus the women of the family are being brought more than ever before into contact with questions of principles and rights. Questions of government administration are forced upon

their notice. And in the factory the very men who used to tell them that trade unionism was no concern of theirs are urging them to organize for the protection of men workers as well as of themselves. . . .

The woman worker who was formerly forbidden by her menfolk to interest herself in public questions is now assured by politicians, journalists, and the men who work at her side that her labor is one of the most vital elements in the national scheme of defence, and that after the war it is going to be one of the most formidable problems of reconstruction. Flattery and discontent have always been the soundest schoolmasters. The factory woman was a case of arrested development, and the war has given her a brief opportunity which she is using to come into line with men of her own class.

Though naturally more guarded in expression, the factory inspectors' report for 1916 reflected a very similar opinion. The change was noted principally among women substitutes for men. There, especially in heavy work, "the acquisition of men's rates of pay has had a peculiarly enheartening and stimulating effect." On the northeast coast in particular, where prewar opportunities for women had been limited and their wages very low, their replacement of men in shipbuilding, munitions, chemicals and iron works had "revolutionized" the position of the woman worker.

"The national gain appears to me to be overwhelming," it was stated further, "as against all risks of loss or disturbance, in the new self-confidence engendered in women by the very considerable proportion of cases where they are efficiently doing men's work at men's rates of pay. If this new valuation can be reflected on to their own special and often highly skilled and nationally indispensable occupations a renaissance may there be effected of far greater significance even than the immediate widening of women's opportunities, great as that is. Undervaluation there in the past has been the bane of efficiency, and has meant a heavy loss to the nation."¹

¹ Great Britain Home Office, *Report of the Chief Inspector of Factories and Workshops for 1916*, pp. 6, 7.

The principal effects of the war on the woman worker were strikingly reviewed by Dr. Marion Phillips, at a "conference of working class organizations," held at Bradford in March, 1917. Dr. Phillips held that the roots of the change lay in the absence of millions of men from their homes on military service and in the fact that for the first time the demand for women workers was greater than the supply. As a result of military demands, wives were deprived of their "dearest and most intimate counsellors," their husbands, and were obliged to form independent judgments, but gained thereby a "new grasp of experience, a widened outlook and greater confidence in their own judgment."

The keen demand for women workers resulted in higher wages, greater opportunities for promotion and more openings in the skilled trades. Women learned their own value as workers and a growing desire for equality with male workers was manifested. Higher wages enabled women workers to obtain more food, and there was a general rise in their standard of living.

On the other hand, Dr. Phillips notes as unfortunate results on women workers, the increase in hours, night work and frequent entrance into unsuitable occupations which overtaxed their strength. There had been a great influx into industry of women with young children, and a "general dispersion and scattering of home groups." Many young women lived in munition centers in hostels or lodgings away from the restraining influence of family and friends. It was claimed that this system encouraged too militaristic a discipline and unfortunate interferences with the private life of the worker by employers and "welfare supervisors." But it is reassuring to see that Dr. Phillips, who is not likely to underestimate the evils produced by the war, gives as her final judgment that "the good effects were infinitely more important than the bad ones."

CHAPTER XV

Peace and Reconstruction

To a far greater extent than in the United States, England, while the war was still in progress, looked ahead to the problems which would inevitably arise when the country shifted back to a peace basis.

As early as the summer of 1916 discussion of methods of adjustment from war to peace had begun. A "Ministry of Reconstruction" was created in August, 1917, succeeding a "Reconstruction Committee of the Cabinet," which had been appointed over a year earlier. It is noteworthy that as time went on "the idea of reconstruction, of a simple return to prewar conditions, was gradually supplanted by the larger and worthier ideal of a better world after the war." The aim of the reconstruction movement came to be not simply to tide over the transition from war to peace but also to remedy the prewar evils which war experience had disclosed.

Many conferences discussed "reconstruction," and a multitude of books and pamphlets kept the printing presses busy. The point of view of labor was put forward in that remarkable document, "Labour and the New Social Order," later adopted as the platform of the reorganized Labor party. A "Joint Committee on Labour Problems after the War" representing the most important labor bodies also put out a number of pamphlets on special subjects. The Ministry of Reconstruction through numerous subcommittees dealt with a wide variety of concrete problems, such as shipping, finance, the allocation of raw materials, rural development, military demobilization, health, housing and education. The "Civil War Workers Committee," the "Committee on Joint Standing Industrial Councils," and

¹ Great Britain Ministry of Reconstruction, *Reconstruction Pamphlet No. 1*, "The Aims of Reconstruction," 1918, p. 4.

the "Women's Advisory Committee on the Domestic Service Problem," were among those dealing with questions affecting the woman worker. But when the armistice came many plans were not complete, and in only a few cases had the machinery for putting them into effect actually been created. So in spite of the really remarkable extent of their attention to after war conditions the English had after all to trust in large part to hastily improvised schemes or to chance.

There were three principal problems affecting the woman worker which pressed for attention during the reconstruction period. First, the prevention of unemployment as the flood of war orders subsided was alone sufficient to tax the resources of the best statesmanship.¹ Second, there was the question of industrial opportunities for the "dilutees," who had taken up work formerly reserved for skilled men under government pledges or unofficial agreements that pre-existing conditions would be restored at the end of the war. Third, equality of payment where men and women were doing similar work had become a burning issue, responsible for no small share of the labor unrest prevalent during the latter part of the war.

While unemployment prevention, though no small problem, was merely a matter of industrial readjustment temporary in nature, action on the other two questions promised to lead to an extensive reconstruction of prewar conditions. In whatever was done it was necessary to take into account the fact that the labor movement was larger and more militant than before the war, with a definite program which would not be satisfied even with the best of working conditions, but which demanded a voice in the shaping of the whole conduct of industry.

¹ The Women's Employment Committee of the Ministry of Reconstruction held that the question of what disposition should be made of the national factories was also one of major importance. The committee suggested that work in these factories, if they were retained by the government, could be so regulated as largely to prevent unemployment by manufacturing goods for which an early demand could be foreseen. Great Britain Ministry of Reconstruction, *Report of the Women's Employment Committee* (Cd. 9239) 1919, p. 4.

Postwar Unemployment among Women

It was generally anticipated that an unemployment crisis would follow the cessation of war activities, in which, as at the beginning of the struggle, women workers would suffer more than men, since so large a proportion of them were working in war industries, taking the places of men only for the duration of the war. Among munition workers in the engineering trade "the great majority of male workers will probably continue," said the Civil War Workers Committee, "but there can be little doubt that large numbers of women workers will be definitely discharged."¹ It estimated that 420,000 women munition workers would lose their jobs at the end of the war. Public attention was forcibly called to the danger by the sudden discharge of several thousand women munition makers in the spring of 1917, on account of a change in the kind of munitions needed. The women were suddenly dismissed without the slightest provision for finding them new positions—"turned off," said one writer, "with as little ceremony as one turns off the gas." Although many women were then needed in other branches of munition work there was, for a time, much confusion and distress.

The official agency charged with developing a plan for the prevention of unemployment among war workers was the "Civil War Workers Committee" appointed by the Ministry of Reconstruction. The committee was authorized to "consider and report upon the arrangements which should be made for the demobilization of workers engaged during the war in national factories, controlled establishments, in other firms engaged in the production of munitions of war and on government contracts, or in firms where substitute labour has been employed for the duration of the war," and its six reports outline such plans in considerable detail. Most of the recommendations applied to men and women alike. They included the aid of the government principally through its employment exchanges, in

¹ Great Britain Ministry of Reconstruction, Civil War Workers Committee, *First Interim Report*, p. 5.

helping discharged war workers find other employment, two weeks' notice or two weeks' wages to all employes on government contracts, free railroad passes to those who had left home to work on munitions and encouragement to private employers, the government and foreign customers to place postwar orders before the end of the conflict. As soon as there was "a reasonable prospect of peace" the employment exchanges should canvass employers for peace time openings and register available employes. On the ground that it was impracticable to distinguish between war workers and others and impossible to select with assurance the trades most liable to unemployment during the reconstruction period the committee advised a general extension of the existing plan of unemployment insurance. On a scheme which had received considerable comment in certain quarters, that of granting every munition worker a month's vacation with pay, the committee reported adversely by a vote of twelve to seven.

In reviewing the probable position of women workers after the war, the committee noted that outside the metal and chemical industries, the bulk were in commercial and clerical occupations. It recommended the establishment of still another committee to "consider the conditions of women's employment" in these lines. A fairly comprehensive program for the "demobilization" of temporary clerks in government departments was laid out. A special employment exchange working with the Civil Service Commission, the arrangement of training courses, special consideration to the temporary clerks in making new appointments and determination of the future position of women in government employment were urged. But in behalf of clerical workers in private employment the only recommendation was the provision, when necessary, of advisory committees in connection with the employment exchanges. Women farm workers were not believed to need help in adjusting themselves and on the railways the future position of the women could be settled only by agreement between the companies and the unions.

Despite the protests of the workers and the efforts of official committees, anticipations as to widespread unemployment were all too accurately fulfilled. In the month before the armistice, October, 1918, the official *Labour Gazette* reported the state of employment as "very good. Much overtime was worked in nearly all the principal trades." But by December there was "a marked decline in employment, especially for women." In the first week of the new year, nearly 225,000 women were receiving the weekly "donations" for unemployed war workers,¹ in contrast to 101,000 men. Four months later, in May, of the 63,930 persons receiving reduced donations after having been paid for thirteen weeks, nearly two-thirds were women. The number of civilians in receipt of "donations" rose each week until the first week in March, when it reached a total of 494,000 women and 234,000 men. From that time on the number of unemployed war workers gradually decreased, until on November 21, three days prior to discontinuance, there were only 34,271 female applicants for out-of-work donations.² Yet on the whole, even though there was for a few months an alarming amount of unemployment among women workers, officials held that British industry adjusted itself to peace more quickly than it had to war. A long list of factories which had changed from war to peace products, for instance from airplanes to furniture and from fuses to electric equipment, was given as early as February. Government control of raw materials was used to aid the transition, and priority was given to certain essentials in using the productive capacity set free from war work.

The independence among women workers which had developed during the war was reflected in their attitude during the period of great unemployment. In the similar crisis at the beginning of the war they had been inarticulate. But on February 15, 1919, their organizations arranged a meeting in Albert Hall, London, attended by

¹ *Vide* p, 246.

² *Vide* Appendix L for detailed figures on unemployment among women workers after the armistice.

women representing nearly every trade, at which women speakers dwelt on the folly of unemployment while the country was in need of all kinds of manufactured articles. Resolutions were passed giving the three points of the "Women's Charter"—"the right to work, the right to live and the right to leisure." It was held that all workers by hand or brain should unite, and that work should be provided for the unemployed. An adequate living wage, an eight hour day and a forty hour week were advocated as standards for working conditions. A deputation was organized to take the resolutions to the Prime Minister, but apparently he did not reply to them.¹

The measures actually adopted by the government show many traces of the Civil War Workers Committee recommendations, though, hastily put in force as they were, they were much less complete, and in some cases widely different. The arrangements made but little distinction between men and women workers. The whole process of "demobilizing" war workers was put in charge of a "controller general" responsible to the Ministry of Labor, who controlled the employment exchanges, a new "Appointments Branch" for "men of office rank" and the labor departments of the Ministry of Munitions, the Admiralty and the War Office. The employment exchanges were made the center for the transfer of war workers. By the day after the armistice the recall of employment exchange officials from the army had been arranged. Staff and premises were enlarged and additional local advisory committees formed. Various efforts were made to provide raw materials and to hasten the change to peace time work by munition manufacturers. Instructions to manufacturers asked them to avoid an immediate general discharge of workers, to abolish all overtime and piece work at once, and to retain as many workers as possible on short time. If wages under this plan fell below certain levels, which were for women 25s. (\$6.00) a week, the government agreed to make up the difference. In case of actual discharge, a

¹ United States Bureau of Labor Statistics, *Monthly Labor Review*, May, 1919, pp. 242-243.

week's notice or a week's pay was to be given, and free railway passes home or to new work places were provided. "The loyal and cordial cooperation of all employers" in carrying out the directions was invited, but nothing is at hand to show to what extent they were observed or how far they lessened unemployment. It will be noted that men and women workers were treated practically alike under this scheme. The "Waacs" and other women auxiliaries of the army and navy were demobilized under the same conditions as all members of the military forces, receiving, besides certain gratuities, a civilian outfit, four weeks' pay and a railway pass.

Special provision for unemployed women through training courses was outlined in a pamphlet issued by the government in the spring of 1919.¹ It was stated that a large number of typical women's trades, such as clothing, textiles, food manufacture and laundry work, would be covered by short training courses of from one to six months' duration, usually three months. In addition a special course in housekeeping would be offered. The courses might be given in any suitable place, such as a factory, as well as in trade schools and the government instructional factories formerly used for training munition workers. Approved students were to receive 15s. to 25s. (\$3.50-\$6.00) a week while taking the course, with traveling fares if necessary, and an additional 10s. (\$2.40) weekly if obliged to live away from home.

When the government adopted for immediate action the plans for relieving unemployment previously outlined it also put forward certain other schemes for decreasing unemployment during the later reconstruction period, which included the stimulation of orders and contracts, public and private, an increase in public works and improvements and the extension of contributory unemployment insurance to practically all workers.

The chief reliance of the government in dealing with unemployment after the armistice was not a contributory

¹ *Vide The Common Cause*, May 9, 1919, p. 1.

insurance plan, but a system of unemployment "donations." Before the war contributory unemployment insurance, paying 7s. (\$1.68) a week to unemployed workers for fifteen weeks a year from a fund created through small weekly contributions for employers, employees and the government, covered 2,200,000 workers in six trades, almost all of whom were males. In 1916 the law was extended for a period of from three to five years after the end of the war to include most of the chief war industries with an additional 1,500,000 employees, including many women. But by an emergency order made within a few weeks after the armistice, the contributory insurance law was temporarily superseded by a scheme of "donations" applying also to all war workers not previously covered and all ex-soldiers and sailors. Free policies were issued, at first good in the case of civilians for six months beginning November 25, 1918, and in the case of soldiers, for twelve months from the date of demobilization. The policies provided their holders with donations while unemployed for thirteen weeks if civilians and twenty-six weeks if soldiers. The original scale was 20s. (\$4.80) weekly for women workers, which was raised after a few weeks to 25s. (\$6.00). Additional payments were made for dependent children, amounting to 6s. (\$1.44) weekly for the first and 3s. (72 cents) for each succeeding child. A later amendment permitted payments to civilians for an additional thirteen weeks at a reduced rate, which was, for women, 15s. (\$3.60) weekly. Later, in May, 1919, when according to the terms of the original order all donation policies held by civilians would have expired, they were renewed for an additional six months. Except for ex-service men and women, the system was finally discontinued on November 25, 1919. At this date 137,000 civilians were receiving donations, of whom 29,000 were females. All donations were paid through the employment exchanges and could be stopped if the recipients refused "to accept suitable employment."

Undoubtedly the system of unemployment donations prevented much suffering among thousands of wage earners to whom the country was indebted for their war work. But

as a whole its operation can not be said to have been satisfactory, particularly among women employes. An entire session of the House of Commons was devoted mainly to criticisms of the system and its defence by the Minister of Labor. Complaints of "slackers" who were taking a vacation at the taxpayers' expense were met by charges that women were being forced to take places at sweated wages by refusals to pay the unemployment donations. In the five months ending April 25, 1919, claims for donations numbering 141,770 were disallowed, in 100,442 of which cases appeals to the referees were made. Only 27,536 of the appealed claims were finally allowed, 81 per cent of the women's claims being denied, about half of them on the ground of "refusal to accept suitable employment."¹

The Ministry of Labor, which administered the unemployment donations, admitted that an unsatisfied demand for women workers existed in domestic service, laundries, the needle work trades and in some districts in the textile industry at the same time that half a million women were out of work. But the places open were either very highly skilled or grossly underpaid and unattractive. For one firm which needed 5,000 workers, the employment exchanges could find only fifty women who seemed qualified, of whom the firm hired only fifteen.

The association of laundrymen even appealed to the government to bring pressure to bear on the women to accept work, but apparently no action was taken in answer to the demand. The women workers themselves said that when the government had raised the rate of unemployment donations from 20s. to 25s. weekly on the ground that a single woman could not live on less, they could not be expected to enter laundries at 18s. (\$4.32) a week.

Other less prominent difficulties of adjustment were the reluctance of soldiers' wives to enter new kinds of work when they would retire from industry in a few months, and the unwillingness of women in general to go from the comparatively high wages of munitions to the low wages of

¹ *Labour Gazette*, May, 1919, pp. 171 and 187.

learners and to factories lacking the conveniences of the new munitions plants.

Criticism of the system was so widespread that an official investigating committee was formed which issued two reports.¹ The committee concluded that there had been no widespread fraud, though under the plan as first put in operation it was possible legally for persons who were not genuinely seeking work to abuse the scheme. The committee felt, however, that the emergency had been great and that if the later safeguards had been introduced in the beginning the whole system might have broken down. They recommended, among other points, swifter prosecution of fraud, a contributory rather than a noncontributory plan, and discontinuance of allowances based on the number of dependents. They felt that applicants must not expect exactly the same sort of work or wage rates that they had had during the war, and that donations should be stopped if similar work was refused.

The Domestic Service Problem

Some of the main difficulties and the keenest discussion centered on the question of domestic service. That the Ministry of Reconstruction found it advisable to appoint a "Women's Advisory Committee on the Domestic Service Problem," which made a formal report, indicates the extent of agitation on the subject. It will be recalled that during the war the number of household servants decreased by 400,000. Householders seemingly expected that as soon as the war was over this shortage would be made up from the ranks of ex-munition workers. But this failed to occur. Some dissatisfaction with the wages offered (most frequently 10s. to 13s. (\$2.40 to \$3.12) a week, with board) was expressed, but the chief complaint was that of long hours and unsatisfactory personal treatment.

Various schemes for attracting workers by improving conditions were put forward, some of which involved rad-

¹ Committee of Inquiry into the Scheme of Out-of-Work Donation. *Interim Report* (Cmd. 196), *Final Report* (Cmd. 305).

ical changes from the usual customs. The majority of the official Women's Advisory Committee, however, placed its chief emphasis in solving the problem merely on the provision of improved methods of training, notably a two year course to be entered by girls of fourteen. Other groups, such as the Fabian Women's Group and the Women's Industrial Council, advocated plans which in essence abolished all "living in," and provided for hostels giving training which would send qualified workers into the homes for a fixed number of hours. By May the Young Women's Christian Association was ready to open a hostel in London from which workers were to be sent out on an eight hour basis. Employers were to pay 10d. (20 cents) an hour to the hostel, and the workers were to receive 30s. (\$7.20) for a forty-eight hour week, and to pay the hostel £1 (\$4.80) weekly for board, for a guarantee against unemployment, for use of uniform and club privileges. If the hostel was successful, others were to be started.¹

Meanwhile an active movement for union organization among domestic servants was begun, and forty branches having 4,000 members were formed in the four or five months after the armistice. The chief aim of the union was said to be the raising of the status of domestic service so that the workers would be proud of it. Its standards seemed to be comparatively modest—a minimum weekly wage of 12s. 6d. (\$2.40) for general servants and 15s. (\$3.60) for cooks, a ten hour work day during a fourteen hour period, part of Sunday and another half day off weekly and abolition of uniforms. This last demand perhaps represented the sharpest departure from prevailing customs. In Glasgow a "Mistresses' League" was formed to cooperate with the union, and it was the general opinion of persons interested that both sides needed organizing.

Still "a house is not a factory," and there were not wanting friends of the women worker to point out that domestic service must necessarily remain to some extent individual and unstandardized.

¹ *London Times*, May 1, 1919.

I am profoundly sceptical as to the various "industrialised" suggestions put forward—the introduction of shifts, etc. How could a household worker strictly on a shift system deal with the irregular incursion of visitors, children home for the holidays, measles, influenza, spring cleaning and other ills to which mortal flesh is heir? . . .

From the maid's point of view, I take it the main disadvantages of domestic service are twofold; the question of free evenings and the uncertainty as to the type of household. Time off in the afternoon is naturally of less value than time off at night. Similarly a maid may find herself on taking a new situation in a comfortable home or very much the reverse.

In a house organized on proper lines, domestic service has compensations as well as drawbacks. A just mistress will arrange for adequate time off, even if the home can not be laid down each week with mathematical exactness. She will see that her maids are properly housed, that their food is adequate and properly cooked, that their work is organized on sensible lines and gives as much scope as possible for individual responsibility. In a household which lives literally as a family and is inspired with mutual consideration and good will "that servant problem" simply does not exist. When mutual consideration and good will are lacking neither corps, caps, correspondence nor conferences will create the cement by which a contented household is held together.¹

It is difficult to tell how far these new schemes will change the conditions of housekeeping and lessen unemployment by attracting women to domestic service. But the fact that they were put forward is an interesting sign of the extent of the movement for reconstructing the national life on better lines.

Dilution and Equal Pay

The other two chief problems of the women workers in the reconstruction period, that of the "dilutees," who had

¹ Violet Markham in *The Labour Woman*, June, 1919, p. 59.

taken up men's work during the war, and that of "equal pay for equal work" and an adequate standard of wages for women workers generally, were closely related to each other. Much of the opposition of the men workers to the entrance of women into new occupations was based on the fact that women's wage standards were lower than those of men. In most cases, it will be remembered, dilution had taken place under promises that it would last only during the war. Parliament, by the Munitions Act, had given the government's pledge that departures from prewar practices should be merely temporary in the establishments covered.¹ Similar clauses, often even more explicit, were found in practically all the substitution agreements made by private employers with labor organizations.² Meanwhile the fixing of women's wages by law had been widely extended, and, in the opinion of close students of labor problems, "a removal of the statutory regulations might well be followed by a serious and immediate fall in wages."³

The government in several instances took action on matters connected with women's wages and occupations after the war, but it is not too harsh to say that a disposition to tide over difficulties temporarily rather than to define any very clear line of policy was evident. Two laws were passed affecting the after war wages of women. The Trade Boards (minimum wage) Act was extended in 1918, before the close of the war, as a measure of preparedness for peace. "There is reason to fear that the after war dislocation of industry will make the problem of adequate wages for unskilled and unorganized workers, especially women, very acute," said an official explanation of the changes in the act.⁴ "Eight years' satisfactory results of Trade Boards pointed to these as the best way of meeting the situation." The new law provided that boards might be formed wherever wages were *unduly* low, instead of *exceptionally* low as in the original law. The general wage

¹ *Vide* p. 55.

² *Vide* p. 62.

³ G. D. H. and M. I. Cole, *Regulation of Wages*, p. 17.

⁴ *Labour Gazette*, August, 1918, p. 307.

level for women workers was so low before the war that it had often been difficult to prove an "exceptional" condition. Provisions were also made to have minimum wage awards come into force more quickly. By the spring of 1919 new Trade Boards had been formed in eight industries.¹ They apparently fixed wages for women on the basis of the necessary cost of living for a single woman—28s. (\$6.72) for a forty-eight hour week in laundries, for example.

But the Trade Boards covered only a fraction of the industries of the country, and further measures were considered necessary to prevent a dislocation of wages. Following the advice of a committee appointed by the Ministry of Reconstruction, the Wages (Temporary Regulation) Bill was passed November 21, 1918. This act required employers to pay the "prescribed" or "substituted" rate which prevailed at the time of the armistice for a period of six months. In May, 1919, the provisions of the act were extended for another six months. Under this law an Interim Court of arbitration was set up which handled the arbitration of disputed wage cases. During the year of its existence it made 932 awards and advised on several others. On November 20, 1919, this Interim Court was displaced by the Industrial Courts Act, which in addition to its function of voluntary arbitration, extended certain parts of the Wages Temporary Regulation Act until September 30, 1920.² At the close of the war the greatest number of women were substituting for men on semi-skilled and repetition processes, and it was therefore semi-skilled men who were menaced most immediately by the danger of undercutting by the women. But in the rapid extension of specialized work during the war lay an evident threat to the position of the skilled worker. A right solution of the two questions, in which the interests of all the groups concerned would be safeguarded, would apparently involve a

¹ Tobacco; aerated waters; boot and shoe repairing; paper bag making; brush and broom making; hair, bass, and fibre trade; laundries; corsets.

² Great Britain, Ministry of Labour, *Labour Gazette*, December, 1919, pp. 514, 515.

modification of prewar conditions, rather than a return to them.

Three points of view were evident in English opinion about women's work and wages after the armistice. The first point of view was, briefly, that women workers would and should return to their prewar occupations. But little attention was given to the question of their wage level. Whether such a return was possible or just to the women themselves, or whether they might not be excluded for a time but remain potential competitors with low wage standards, thus bringing about the very danger they were trying to avoid—all this was seemingly not considered. Though relatively seldom expressed in print it was a viewpoint held widely and tenaciously. Government officials, visiting America in November, 1917, for instance, said that marriage, the return of married women to their homes and the revival of the luxury trades and domestic service, would relieve the situation. Many old line trade unionists also believed that women should not be allowed to remain in most of their new lines of work, and demanded the literal fulfilment of all pledges to that effect. The general secretary of the Postal and Telegraph Clerks' Association, at a conference of "Working Class Associations" said as to the basis of suitable occupations:

My own view, for what it is worth, is that this problem could be solved with very little trouble. I think a careful study of the census returns for the last thirty years would help to solve the problem of the basis of suitability. We could safely conclude that the occupations which, according to the census, show a steady and persistent increase in the number of women employed are suitable occupations for the extension of women's labour. I think we must face it . . . that, as far as we can see at present, the prewar standard for fixing wages as between men and women is likely to remain.

A second point of view, which might be termed the "moderate" one, compromising between prewar and war condi-

tions, advocated the retention of women in all "suitable" occupations, together with an extension of protective labor legislation, protection of the wage level by minimum wage fixing, and "equal pay for equal work" where men and women remained in the same occupations. This opinion was evident in the two chief official reports on women's work which have been issued since the armistice, that of the Home Office on "Substitution of Women in Nonmunition Factories during the War" and that of the "War Cabinet Committee on Women in Industry." The former described a fairly large range of new employments as "suitable" for women, including positions in scientific laboratory work, supervision and management, as well as factory processes. Even with all unsuitable occupations set aside, there remained "a body of industries and operations offering a hopeful field of fresh employment to women, where their war experience can be turned to account, and should prove a national asset of great value." Among the approved trades were light leather tanning, fancy leather manufacture, box and packing case making, furniture, scientific instrument making, flint glass cutting and engraving, and cutlery, except scissors manufacture. The factors causing an occupation to be disapproved were the heaviness of the work, the use of dangerous machinery or poisonous substances, the presence of exceptional heat, wet or dirt and the necessity for night work or solitary employment.¹ Basing its conclusions on considerations of "efficiency" and relative output, the War Cabinet Committee decided that women would probably not remain in heavy manual labor and out door work. There had not been time during the war to judge of their effectiveness in skilled work, but in routine and repetition processes, into which the war had hastened their "normal" movement, they had been successful and were likely to stay permanently. Repetition work in the metal trades, light work in chemical plants, certain processes in printing, woodworking and manufacture, agriculture, commerce and government posi-

¹ *Vide* Appendix M (p. 248) for list of "unsuitable" occupations.

tions, and many of the new administrative and professional openings for educated women, were mentioned by the War Cabinet Committee as providing possibilities for the continued work of women.¹ But both reports recognized that many other factors besides suitability, notably the attitude of the trade unions, would play an important part in determining the position of the woman worker.

The chief purpose of the investigations of the War Cabinet Committee was to decide on the proper relation between the wages of men and of women. The majority of the committee concluded that when men and women did radically different work, it was "not possible to lay down a relation between their wages." However, for the protection of women workers they urged a universal minimum wage for adult women, sufficient to cover the necessary cost of living for a single woman. The extension and strengthening of protective labor laws was also endorsed, and the possibility of such regulation through international action was welcomed. But when the two sexes had entered the same occupations, the committee subscribed to the principle of equal pay for equal work, "in the sense that pay should be in proportion to efficient output." The committee believed that piece rates should be equal and time rates should be fixed by trade union negotiation. In the frequent case in which a woman was doing part of a man's job, the total rate should be unchanged, and the different workers should be paid in proportion to the value of their contribution. Where processes were simplified on the introduction of women, the women should be paid the unskilled men's rate, unless it could be proved that their work was of less value.

The third position regarding women's wages and women on men's jobs was clear cut and uncompromising and was perhaps typified in a minority report to the War Cabinet Committee by Mrs. Sidney Webb. In this report Mrs. Webb expressed the belief that existing relations between

¹ The report of the "Machinery of Government Committee" took a similar position, advocating in a rather guarded way the increased employment of women in the civil service, including the upper division, from which they had been excluded before the war.

men's and women's employment were harmful to individuals and to the nation. All occupations should be opened to qualified persons regardless of sex, at the same standard rates and under the same working conditions. "Equal pay for equal work" was an ambiguous and easily evaded phrase. A national legal minimum wage should also be fixed, in which "there should be no sex inequality." As a corollary to the proposals Mrs. Webb believed that some form of public provision for the needs of maternity and childhood should be established. "There seems no alternative—assuming that the nation wants children—to some form of state provision, entirely apart from wages."

Eighteen months after the signing of the armistice it was still hardly possible to know definitely what the after war wages and occupations of the woman worker would be. After war industrial conditions in themselves naturally stimulated some return of women to their former occupations. Many of the women substitutes were found in munition making which was immediately curtailed, while the luxury, the needle and other "women's" trades, depressed during the war may be expected to revive in time. The reluctance of women to enter these trades under the prevailing wage standards was very pronounced, however. Another important factor in forcing women back to prewar lines of work was the carrying out of certain war time substitution agreements. For example, the newly formed industrial council of the wool textile industry, representing employers and employees, adopted on February 3, 1919, the substitution agreement made between employers and work people of the West Riding of Yorkshire three years before. By the terms of this agreement, the returning soldiers were to get their places back when fit for employment. Women were not to be employed on men's work if men were available and were to be the first discharged if there was a shortage of work. As long as women substitutes remained in the industry they were to be paid on a basis equivalent to that of men workers.

¹ Great Britain, *Report of the War Cabinet Committee on Women in Industry, Minority Report*, p. 255.

But in other cases, even though similar agreements exist, it appears probable that they will be modified to allow women to keep at least some of their new jobs. Although the Amalgamated Society of Engineers had the legal sanction of the Munitions Acts for excluding women from engineering at the end of the war, at a conference between employers and the union for drafting an after war trade agreement their president expressed his willingness to allow women to remain in semi-skilled repetition work. According to this official much of this kind of work would be carried on in munition plants converted into factories for the manufacture of articles formerly imported. Officials expect the so-called "Whitley" industrial councils of employers and employees to make many similar adjustments, but it has been noted that the council in the woolen industry merely reverted to prewar conditions and arranged to shut out the women. Moreover, in many new occupations, notably clerical and commercial work, which women entered without conditions, and where their efficiency has been demonstrated, it seems almost certain that they will remain. The awakened spirit among women workers and the growth of labor organizations among them, which will give voice to their demands, must also not be forgotten in judging whether women will not continue to occupy at least a part of their new field of work. The radical point of view, that there should be no barriers against their continuing all their new occupations has attracted much attention from its logical presentation and the new note that it strikes.

The position of the government on "dilution" is not wholly clear. During the Parliamentary campaign of December, 1918, Lloyd George, in answer to questions from Lady Rhondda of the Women's Industrial League, stated that he intended to carry out the terms of the Treasury Agreement of 1915, which promised to restore prewar practices. But "the government had never agreed that new industries come under the Treasury Agreement." Women could find employment in these, which were already extensive, and in their prewar occupations. The Prime Minister also stated that he was "a supporter of the principle

of equal pay for equal output. To permit women to be the catspaw for reducing the level of wages is unthinkable." In his stand at this time, Lloyd George appeared to approach the middle-of-the-road compromising position of the majority of the War Cabinet Committee on Women in Industry.

A somewhat similar stand was taken in the "Restoration of Prewar Practices Act" of August 15, 1919, which arranged for the fulfilment of pledges made in the Treasury Agreement. It required the owners of the establishments covered—mainly those engaged in munitions work—to restore or permit the restoration of prewar trade rules and customs, and to allow such prewar practices to be continued for a year.

Rules laid down by the Ministry of Labour are quoted, however, which would turn out all the "dilutees," both male and female, and give back to the skilled men their former monopoly. The rules state that wherever a part of the force must be discharged, the "dilutees" must go first and that if a skilled man applies for work, a "dilutee" must be discharged if necessary.¹ It is probable that these rules apply only to establishments covered by the Munition Acts, but, as far as they go, they leave the women nothing of their war time gains.

On the other hand, in assenting to the recommendations of the national Industrial Conference, the government agreed with those who argued for the same protective legislation for both sexes along with state maternity provisions. This national industrial conference, representing employers and employes was called in the spring of 1919 during great labor unrest. It urged legislation for a forty-eight hour week and a universal minimum wage for both sexes, and such bills were pending in Parliament in September, 1919.

The conference also proposed that public provision for maternity care be extended and centralized under the Min-

¹ *Scientific American*, June 7, 1919.

istry of Health to whose creation the government was pledged. Maternity protection will undoubtedly hold a prominent place in legislation during the next few years. The successful strike of the women bus workers for equal pay, supported as they were by their male coworkers and by the public, gave hope for the coming of industrial equality between men and women. Such equality immediately raises the question of pay for the services which married women render to the state. The rearing of healthy children is of vital national importance and the endowment of motherhood, provision of milk and proper food for pregnant and nursing mothers and the extension of maternity centers and hospitals with medical and nursing care, are already under consideration by the newly created Ministry of Health.

Child Workers After the War

On the needs of children there was much more general agreement. The most pressing problem was prevention of unemployment during the readjustment from war to peace time production. The larger issue lay in greater public control over the first years of working life, to the end that the young workers might grow into better citizens. Both problems were undoubtedly made more difficult by the harm done to boys and girls in body and character by the war. But at the same time the war had roused a greater appreciation of the value of these future citizens and a greater determination to improve their chances.

Alarming forecasts were made as to the probable extent of unemployment among boys and girls at the end of the war by a committee of enquiry appointed by the Ministry of Labour at the suggestion of the Ministry of Reconstruction.¹ A number of munition firms which were canvassed said that they intended to discharge nearly half their boys and three quarters of their girls when peace was declared. It was estimated that 60,000 out of the 200,000 working boys and girls in London would be thrown out of a job.

¹ *The Labour Gazette*, December, 1919, p. 524.

Acute unemployment was predicted in occupations that had engaged more than three-tenths of all working girls—the metal, woodworking and chemical trades, government establishments, transport and perhaps commerce.

It was likewise anticipated that it would be particularly difficult for boys and girls dismissed at the end of the war to find new places. Not only would openings be few and the numbers of adults seeking work be large, but the high wages children had received for repetition work on munitions would make them unwilling to learn trades or to accept lower pay. When a number of boys were discharged from munition plants in 1916–1917, although labor at that time was very scarce, great difficulty was found in getting them new places because of their unwillingness to accept ordinary wages. To meet the crisis the Ministry of Reconstruction committee suggested a comprehensive program for unemployment prevention. The discharge of war workers should be regulated and placement centered in the employment exchanges, whose juvenile employment committees were to be strengthened. Government establishments should hold back dismissals until notified that places were open. A canvass for possible openings and for probable dismissals should be made in advance of the end of the war.

The second point in the committee's plan was keeping newcomers out of industry. The exemptions allowing children under fourteen to leave school should be abolished, scholarships provided for many capable children at secondary schools, and the working weeks for all under eighteen reduced to forty-eight hours. For those still uncared for, training during unemployment should be provided. Training centers should be opened in all towns of over 20,000 population and allowances made to parents whose children attended. For the boys most demoralized by war work it might even be necessary to open residential training camps where they could remain at least six or eight weeks.

The third main point in the program was the improvement of working conditions, including for all occupations

a week of forty-eight hours for work and continuation school together, the abolition of night work, and a searching physical examination before entering industry. A novel recommendation was that it should be made a legal offence to employ young persons under conditions "impeding their training."

But as was the case with the women workers, the comprehensive plans worked out under the Ministry of Reconstruction had not been adopted when the armistice was signed, and juvenile workers were helped through the unemployment crisis only by the incomplete makeshifts hastily adopted in the first few days after November 11. Chief among these was the provision of unemployment donations, the payment of which was conditional on attendance at a training center wherever one was available. The donations were payable for the same period as those for adults, that is, for thirteen weeks during the first six months of peace, later extended for a second six months, but were less in amount, being 14s. 6d. (\$5.48) weekly for boys and 12s. 6d. (\$3.00) for girls. During the first few months of 1919, about 50,000 young persons received the donations.

The number receiving donations steadily declined until on November 21, 1919, when civilian donations ceased, there were 8,000 boys and 2,287 girls on the Labor Exchange donation lists.¹ By February of that year 116 training centers had been opened, providing nearly sufficient in London, and a smaller number elsewhere. More were opening daily, but it was hard to find teachers and rooms. The centers were managed by the Board of Education, in close cooperation with the employment exchanges. About 13,500 boys and girls were in attendance daily.²

The Fisher Education Law is, to date, the chief constructive measure looking toward a permanent improvement in the condition of juvenile workers. This measure was the result of proposals made by 1917 by an official committee on "Juvenile Education in Relation to Employment after

¹ *The Labour Gazette*, December, 1919, p. 524.

² Great Britain Ministry of Reconstruction, *Pamphlets on Reconstruction Problems*, No. 15, "Juvenile Employment," 1919, p. 19.

the War," which were strikingly like those put forward by a number of workers' organizations. All exceptions allowing children to leave school before the age of fourteen were abolished. Any gainful employment by children under twelve was forbidden, and children between twelve and fourteen might work only on Saturdays and for a few hours after school. Attendance at continuation schools by all young workers was required, and the age limit will be eighteen years when the law goes into full effect. Eight hours a week and two hundred and eighty hours a year must be given to continuation school, the time for attendance being taken out of working hours. Unfortunately, those who in some ways most need the protection of the law, namely, the boys and girls who left school for work prematurely during the war, do not come under its provisions. Two special sections exempted those who had already left school from returning, and those fourteen years old or more when the law was passed, from attendance at continuation classes. Nevertheless by the enactment of this law the final effect of the war on English child labor standards should be to lift them to a higher level than ever before.

Even at this time of writing it is difficult to measure the final effects of the war upon the economic conditions of the women and children. Too many unfinished plans and unfulfilled pledges still remain for action by the government. Far reaching changes are, however, in prospect and some of them actually under way. Foremost among these is the aroused spirit among the workers, who are demanding and peacefully securing a real share in the management of industry. In this awakening the woman worker has fully participated. The disadvantages of war work, in long hours, overstrain, the disruption of home life, may pass as industrial conditions return to normal. The gains in the way of better working conditions, higher wages and a wider range of occupations seem likely to be more permanent. Most important of all is the fact that because of her broader and more confident outlook on life, the woman worker is able consciously to hold to the improved economic position to which the fortunes of war have brought her.

APPENDICES

Appendix A

The following table, from a "Report to the Board of Trade on the State of Employment in the United Kingdom," of February, 1915, compares the number of males and females on full time, on overtime, on short time, and unemployed, between September, 1914, and February, 1915.

STATE OF EMPLOYMENT IN SEPTEMBER, OCTOBER AND DECEMBER, 1914, AND FEBRUARY, 1915

(Numbers Employed in July = 100 per cent.)

	September, 1914		October, 1914		December, 1914		February, 1915	
	M	F	M	F	M	F	M	F
Full time	60.2	53.5	66.8	61.9	65.8	66.6	68.4	75.0
	3,913,000	1,337,500	4,342,000	1,547,500	4,277,000	1,665,000	4,446,000	1,875,000
Overtime	3.6	2.1	5.2	5.9	12.8	10.8	13.8	10.9
	234,000	52,500	338,000	147,500	832,000	270,000	897,000	272,500
Short time	26.0	36.0	17.3	26.0	10.5	19.4	6.0	12.6
	1,690,000	900,000	1,124,500	650,000	682,500	485,000	390,000	315,000
Contraction in Nos. employed	10.2	8.4	10.7	6.2	10.9	3.2	11.8	1.5
	663,000	210,000	695,000	155,000	708,500	80,000	767,000	37,500
Enlisted	8.8	.....	10.6	.....	13.3	.....	15.4	.....
	572,000	.....	689,000	.....	864,500	.....	1,010,000	.....
Net displacement (-) or replace- ment (+)	-1.4	-8.4	-0.1	-6.2	+2.4	-3.2	+3.6	-1.5
	-91,000	-210,000	-6,500	-155,000	+156,000	-80,000	+243,000	-37,500

Appendix B

The following table indicates some of the processes formerly reserved for men on which the factory inspectors found women employed by the end of 1915:

INDUSTRY	PROCESSES
Linoleum.....	Attending cork grinding and embossing machines, machine printing, attending stove, trimming and packing.
Woodworking—	
Brush making.....	Fibre dressers, brush makers and on boring machinery.
Furniture.....	Light upholstery, cramping, dowelling, glueing, fret-work, carving by hand or machine, staining and polishing.
Saw mills.....	On planing, moulding, sand-papery, boring, mortising, dovetailing, tenoning, turning and nailing machines. Taking off from circular saws; box making, printing and painting.
Cooperage.....	Barrel making machines.
Paper mills.....	In rag grinding and attending to beating and breaking machines, and to coating machines, calenders and in certain preparations and finishing and warehouse processes.
Printing.....	Machine feeding (on platen machines and on guillotines) and as linotype operators.
Wire rope.....	On stranding and spinning machines.
Chemical works.....	Attending at crystallising tanks and for yard work.
Soap.....	As soap millers and in general work.
Paint.....	At roller mills, filling tins and kegs, labeling and packing.
Oil and cake mills.....	Trucking, feeding and drawing off from chutes, attending to presses.
Flour mills.....	Trucking.
Bread and biscuits.....	Attending to dough-breaks, biscuit machines, and at the ovens assisting bakers.
Tobacco.....	Leaf cutting, cigarette making, soldering, trucking and warehouse work.
Rubber.....	At washing machines, grinding mills, dough rolls, solutioning, motor tube making.
Malting.....	Spreading and general work.
Breweries.....	Cask washing, tun-room work, beer bottling and bottle washing.
Distilleries.....	In the mill and yeast houses.
Cement.....	Attending weighing machines, trucking.
Foundries.....	Core making, moulding.
Tanning and currying.....	At the pits, in finishing and drying, and in oiling, setting up, buffing and staining.
Woolen mills.....	Beaming and overlooking, attending drying machines, carding, pattern weaving.

INDUSTRY

PROCESSES

Jute mills.....	On softening machines, dressing yarn, calendering.
Cotton mills.....	In blowing room on spinning mules, beaming, twisting and drawing, and in warehouse.
Hosiery.....	Folding and warehouse work.
Lace.....	Threading.
Print, bleach and dye works....	Beetling, assisting printers at machines, warehouse processes.

Appendix C

The following tables from the second report of the British Association for the Advancement of Science bring out in detail, first, the gradual disappearance of unemployment and short time and the increase of women's numbers in industry from September, 1914, to April, 1916; second, the changes in numbers of women in the various occupations, both industrial and non-industrial in December, 1915, and April, 1916, compared with July, 1914, and, third, similar details as to the number of women who were undertaking "men's work."

STATE OF EMPLOYMENT OF WOMEN AT VARIOUS DATES SINCE THE OUT- BREAK OF WAR, COMPARED WITH STATE OF EMPLOYMENT IN JULY, 1914

("Industrial" employment only. Numbers employed July, 1914 = 100 per cent.)

	Sept., 1914	Oct., 1914	Dec., 1914	Feb., 1915	Oct., 1915	Dec., 1915	Feb., 1916	April, 1916
Contraction (—) or expansion (+) in numbers employed	—8.4	—6.2	—3.2	—1.5	+7.4	+9.2	+10.9	+13.2
Employed on overtime.....	2.1	5.9	10.8	10.9	13.9	14.5	12.8	.....
Employed on short time....	36.0	26.0	19.4	12.6	5.6	6.1	4.6	.....

EXTENSION OF THE EMPLOYMENT OF WOMEN IN DECEMBER, 1915, AND APRIL, 1916

Occupations Group	Estimated Industrial Population. July, 1914, Females	Increase (+) or Decrease (—) of Females in	
		Dec., 1915	April, 1916
Building	7,000	+ 3,600	+ 6,400
Mines and Quarries.....	9,000	+ 800	+ 2,300
Metal Trades	144,000	+ 71,700	+126,900
Chemical Trades	40,000	+ 19,400	+ 33,600
Textile Trades	851,000	+ 29,700	+ 27,800
Clothing Trades	654,000	+ 6,700	+ 11,700
Food Trades	170,000	+ 31,700	+ 30,900
Paper and Printing Trades.....	169,000	.....	— 900
Wood Trades	39,000	+ 7,400	+ 13,200
Other Trades	96,000	+ 25,400	+ 35,700
All "Industrial" Occupations.....	2,180,000	+196,500	+287,500
Commercial	474,500	.....	+181,000
Professional	68,500	.....	+ 13,000
Banking and Finance.....	9,500	.....	+ 23,000
Public Entertainment	172,000	.....	+ 14,000
Agriculture .....	.....	.....	.....
Transport	9,500	.....	+ 16,000
Civil Service	63,000	.....	+ 29,000
Arsenals, Dockyards, etc.	2,000	.....	+ 13,000
Local Government (incl. Teachers)...	184,000	.....	+ 21,000
Domestic Service .....	.....	.....	.....
Total for "Non-industrial" Occupations.	983,000	.....	+310,000
Total for all Occupations.....	3,163,000	.....	+597,500

EXTENT OF SUBSTITUTION OF FEMALE FOR MALE WORKERS IN DECEMBER, 1915, AND APRIL, 1916.

Occupations Group	Estimated number of Females on work in substitution of Males' work	
	December, 1915	April, 1916
Building	6,100	8,800
Mines and Quarries.....	2,700	4,400
Metal Trades	70,300	117,400
Chemical Trades	9,600	16,200
Textile Trades	57,600	73,400
Clothing Trades	30,400	42,300
Food Trades	29,500	35,000
Paper and Printing Trades.....	22,500	23,600
Wood Trades	11,400	17,400
Other Trades	27,000	37,400
All "Industrial" Occupations.....	267,100	375,900
Commercial .....	.....	189,000
Professional .....	.....	16,000
Banking and Finance.....	.....	25,000
Public Entertainment .....	.....	32,000
Agriculture .....	.....	.....
Transport .....	.....	18,000
Civil Service .....	.....	31,000
Arsenals, Dockyards, etc. ....	.....	13,000
Local Government (incl. Teachers).....	.....	37,000
Domestic Service .....	.....	.....
Total for "Non-industrial" Occupations.....	.....	361,000
Total for all Occupations.....	.....	736,900

Appendix D

The following table, compiled from the quarterly reports in the *Labour Gazette* and a special report of the Board of Trade, gives the increase in the employment of women between April, 1916, and July, 1918, for the most of the important occupational groups. It can not be compared directly with the similar tables, previously given, prepared by the British Association for the Advancement of Science, because of slight differences in the estimates of the numbers employed in July, 1914.

EXTENSION OF THE EMPLOYMENT OF WOMEN IN THE UNITED KINGDOM, APRIL, 1916-JULY, 1918
(Classified by employers' position, not by nature of work.)

	Estimated No. Empl. July, 1914	Estimated increase since July, 1914										Per cent of increase July, 1914- July, 1918
		April, 1916	July, 1916	Oct., 1916	Jan., 1917	April, 1917	July, 1917	Oct., 1917	Jan., 1918	April, 1918	July, 1918	
Industrial Occupations ¹	2,176,000	275,000	361,000	393,000	423,000	453,000	518,000	529,000	533,000	537,000	565,000	26.0
Government Establishments ²	2,000	25,000	79,000	117,000	147,000	198,000	202,000	211,000	207,500	197,000	223,000	11,200.0
Commercial	496,000	166,000	240,000	268,000	274,000	307,000	324,000	333,000	343,000	354,000	364,000	73.4
Professional	50,500	13,000	14,000	15,000	18,000	21,000	20,000	50,000	50,000	57,000	.....	4.0
Banking, Finance (mainly clerks)	9,500	23,000	32,000	37,000	43,000	50,000	54,000	59,000	61,000	63,000	65,000	687.0
Hotels, Theaters, etc.	181,000	12,000	20,000	16,000	10,000	13,000	22,000	28,000	26,000	25,000	39,000	21.5
Agriculture (perm. labor Gr. Britain) ..	80,000	—14,000	20,000	500	—14,000	.....	23,000	7,000	—6,000	9,000	33,000	41.3
Transport (not municipal)	17,000	23,000	35,000	41,000	51,000	62,000	72,000	77,000	76,000	78,000	.....	.....
Civil Service	66,000	39,000	58,000	67,000	76,000	89,000	98,000	116,500	124,000	159,000	168,000	255.0
Local Government ³	198,000	21,000	30,000	34,000	44,000	47,000	49,000	51,500	51,500	53,000	52,000	26.5
Other .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	150,000	.....
Total	3,276,000	583,000	889,000	988,500	1,072,000	1,240,000	1,382,000	1,462,000	1,466,000	1,532,000	1,659,000	50.6

¹ Not owned by government.

² Includes arsenals, docks, government shell filling factories, etc.

³ Includes teachers and transportation workers for municipalities.

Appendix E

The following table, compiled from the *Labour Gazette*, and a special report of the Board of Trade, gives a quarterly estimate of the number of women replacing men for the period between April, 1916, and April, 1918.

NUMBER OF FEMALES SUBSTITUTED FOR MALE WORKERS IN THE UNITED KINGDOM IN CERTAIN OCCUPATIONS, BY QUARTERS, APRIL, 1916-APRIL, 1918

	April, 1916	July, 1916	Oct., 1916	Jan., 1917	April, 1917	July, 1917	Oct., 1917	Jan., 1918	April, 1918	Per cent No. of substitutes in April, 1918, is of total No. employed in July, 1914
Industrial Occupations ¹	213,000	264,000	314,000	376,000	438,000	464,000	490,000	503,000	531,000	24.4
Government Establishments ²	13,000	79,000	117,000	139,000	187,000	191,000	202,000	197,000	187,000	9,350.0
Commercial	152,000	226,000	264,000	278,000	308,000	328,000	337,000	342,000	352,000	70.9
Professional (mainly clerks)	12,000	15,000	15,000	17,000	20,000	21,000	22,000	22,000	22,500	44.3
Banking, Finance (mainly clerks)	21,000	31,000	37,000	42,000	48,000	53,000	55,000	57,000	59,500	626.3
Hotels, Theaters, etc.	27,000	31,000	30,000	31,000	35,000	38,000	44,500	45,000	44,500	24.5
Agriculture (perm. labor, Gt. Britain)	37,000	35,000	20,000	23,000	32,000	43,000	33,000	31,000	40,000	50.0
Transport (not municipal)	24,000	35,000	41,000	52,000	64,000	74,000	78,500	78,000	79,500	21.3
Civil Service	30,000	41,000	64,000	73,000	83,000	99,000	107,000	123,000	153,000	231.8
Local Government ³	18,000	26,000	31,000	40,000	41,000	43,000	44,000	44,000	47,000	23.7
Total	547,000	783,000	933,000	1,071,000	1,256,000	1,354,000	1,413,000	1,442,000	1,516,000	46.2

¹ Not owned by government.

² Includes arsenals, docks, government shell filling factories, etc.

³ Includes teachers and transportation workers for municipalities.

Appendix F

ESTIMATED NUMBER OF FEMALES DIRECTLY REPLACING MALES IN VARIOUS BRANCHES OF INDUSTRY IN JANU- ARY, 1918.

(Compiled from the Report of the War Cabinet Committee on Women in
Industry.)

<i>Trade</i>	
Metal	195,000
Chemical	35,000
Textile	64,000
Clothing	43,000
Food, Drink and Tobacco.....	60,000
Paper and Printing	21,000
Wood, China and Earthenware, Leather.....	23,000
Other	62,000
Government Establishments	197,000
Total.....	700,000

ESTIMATED NUMBER OF FEMALES DIRECTLY REPLACING MALES IN VARIOUS BRANCHES OF COMMERCE IN APRIL, 1918.

(Compiled from the Report of the Board of Trade on the Employment of
Women in April, 1918.)

Wholesale and Retail Drapers, Haberdashers, Clothiers, etc.	41,000
Wholesale and Retail Grocers, Bakers, Confectioners.....	92,000
Wholesale and Retail Stationers and Booksellers.....	16,000
Wholesale and Retail Butchers, Fishmongers, Dairymen.....	30,000
Retail Chemists	12,000
Retail Boot and Shoe Dealers	8,000
Total (including some not specified above).....	352,000

Appendix G

ESTIMATE BY THE BRITISH WAR CABINET COMMITTEE ON WOMEN IN INDUSTRY ON AVERAGE WEEKLY EARNINGS OF WOMEN IN VARIOUS OCCUPATIONS AT THE END OF THE WAR.

Earnings under 25s. weekly:

Dressmakers, milliners (first five years), laundry workers, pottery workers (most grades), knife girls and kitchen hands in refreshment houses.

Earning between 25s. and 30s. weekly:

Cutlery workers, soap and candle makers (unskilled), corner tenters (cotton), woolen and worsted weavers, backwashers (Scotch Tweed), dyers and cleaners, biscuit makers, cigarette makers, pottery workers (certain grades), waitresses in refreshment depots.

Earning between 30s. and 35s. weekly:

Ammunition makers (women's work), chainmakers, salt packers, fine chemical workers, soap makers (most operations), card-room operatives (cotton), clothing machinists, workers in grain-milling and brewing, cigar makers, shop assistants (co-operative).

Earning between 35s. and 40s. weekly:

Workers in the light casting trade, chemical laborers, big tenters and ring-spinners (cotton), wool combers, tailoring fitters and cutters, boot operatives, bakery workers, jigger women in potteries, tanners, shop assistants (large stores).

Earning between 40s. and 45s. weekly:

Workers in engineering, chemicals (shift work) and explosives; textile dyers, tobacco machinists, motor drivers (for shop), railway carriage cleaners, telephonists, railway clerks.

Earning between 45s. and 50s. weekly:

Cloth lookers (cotton), hosiery machinists, web dyers, gas index readers and lamp-lighters, railway porters, ticket collectors, telegraphists.

Earning between 50s. and 60s. weekly:

Ledger clerks, Civil Service clerks (Class I).

Earning over 60s:

Women on skilled men's work in engineering omnibus conductors (London), gas workers (heavy work for South Metropolitan Gas Co.).

Appendix H

NUMBER OF ORDERS MODIFYING THE LABOR LAWS, ISSUED FROM AUGUST 4, 1914, TO FEBRUARY 19, 1915

(*Report of the Chief Inspector of Factories and Workshops for 1914, p. 56.*)

Textile:		Clothing:	
Wool	748	Uniforms	514
Hosiery	231	Fur coats	9
Cotton	159	Boots	245
Flax	28	Caps	28
Hemp and jute.....	29	Shirts	73
Silk	8	Bedding	33
Dyeing and finishing.....	37	Surgical dressings	21
Leather and leather equipment..	105	Tobacco	10
Canvas equipment	137	Food	37
Munitions	151	Tin boxes	37
Shipbuilding	15	Camp equipment.....	52
Electrical supply	35	Wire and wire netting.....	34
Metal accessories	141	Wagons, etc.	34
Machinery	57	Rubber	16
Wood	44	Miscellaneous	73
		Total.....	3,141

Appendix I

The following list of modifications of the hour laws in 1915 was compiled from the *Report of the Chief Inspector of Factories and Workshops for 1915*.

<i>Industry</i>	<i>Persons Affected</i>	<i>Latitude</i>
Munitions.	Women. Boys over 14. Girls over 16.	As in 1914.
Woolen and worsted (from May).	Women and young persons.	6 hours weekly overtime, in 2-hour shifts on 3 days or 1½ hours on 4 days. No overtime on Saturday.
Weaving (July-Nov.).	Women and young persons over 16.	8 hours weekly overtime in 2-hour shifts on 4 days.
Hosiery.	Protected persons.	1½ hours overtime on 4 days, or 1 hour on 5 days, but not on Saturday or Sunday.
Cotton.	Protected persons.	6 hours overtime weekly.
Margarine.	Not stated.	Not stated.
Window shades.	Not stated.	Not stated.
Flax.	Not stated.	Not stated.
Rope walks.	Not stated.	6 hours overtime weekly.
Bleach and dye works (surgical dressings; raising and finishing flannelette).	Not stated.	6 hours overtime weekly.
Tanning and currying.	Women. Boys over 14.	4 hours overtime weekly.
Canvas equipment.	Not stated.	5 hours overtime weekly.
Shipbuilding.	Boys over 14.	(a) Overtime, 5 hours a week for boys under 16; 7½ hours for those over 16. (b) Eight-hour shifts. (c) Day and night shifts.
Bread baking.	(a) Boys 17. (b) Boys 15 and over.	(a) Night shift (not exceeding 9 hours). (b) Any period of 9 hours between 4 a.m. and 8 p.m.
Pastry baking (Scotland).	(a) Women and boys of 17. (b) Boys 15 and over.	(a) Night shift (not exceeding 9 hours). (b) Any period of 9 hours between 4 a.m. and 8 p.m.
Chocolate.*	Women.	When necessary, on account of hot weather, between 6 a.m. and 10 p.m. for two spells of 4 hours each, one in the morning and one in the afternoon.
Leather equipment.*	Women and young persons over 16.	Overtime 1½ hours per day.
Aerated waters.*	Women.	Extension of overtime allowed by S. 49.
Glass.	Boys over 13 (educationally qualified).	Extension of S. 55.

* The order expired and was not renewed.

<i>Industry</i>	<i>Persons Affected</i>	<i>Latitude</i>
Oil and cake mills.	Women and boys over 16.	8-hour shifts, or day and night shifts.
Flour mills.	Women and boys over 16.	8-hour shifts, or day and night shifts.
Toys and games.*	Women.	Overtime as allowed by S. 49 and night shifts during the Christmas season.
Dairies.	Women and young persons.	5 hours on Sundays, with weekly limit of 60 hours. No other overtime during the week.
Paper mills.	Women.	8-hour shifts, or day and night shift.
Pottery.	Not stated.	Suspension of certain regulations.
Sandbags.*	Women and young persons.	Overtime, 3 hours per week.
Cement (Essex and Kent).	Women.	Night shift.
Waterproof capes (War Office contracts).*	Women and young persons over 16.	(1) Overtime, 4½ hours per week. (2) Permission for Christians to work on Saturday and Jews on Sunday.
Manchester warehouses.	Women and boys over 16.	Overtime, 2 hours on not more than 4 days a week and on not more than 12 days in any 4 weeks.
Lace and patent net factories (processes of threading, brass bobbin winding, jacking off and stripping).	Women, girls over 16; boys over 14.	(1) Different periods of employment for different workers. (2) Where (1) is impracticable overtime 1½ hours per day, but with a weekly limit of 60 hours exclusive of meal times.
Non-textile works engaged on work for the Crown, or on work required in the national interest.†	Women, girls over 16; boys over 14.	Rearrangement of the statutory hours but period of employment not to exceed 14 hours on any one day, or 60 hours (exclusive of meal times) in any week.

* The order expired and was not renewed.

† A new order, which was allowed in all non-textile works not otherwise provided for. It allowed greater elasticity than was provided by the Factory Acts, and permitted, for example, such moderate overtime during the week as could be compensated by an earlier stop on Saturdays.

Appendix J

GENERAL ORDER REGULATING OVERTIME ISSUED BY THE HOME OFFICE SEPTEMBER 9, 1916.

The following is the full text of the parts of the order applying to women :

Scheme A. (Three Shifts.)

This scheme applies to women and female young persons of 16 years of age and over, and male young persons of 14 years of age and over. Three shifts, none of which may be longer than 10 hours, may be worked in each period of 24 hours, subject to the following conditions :

(1) Each worker shall have one break of 24 hours or more in every week, or of 32 hours or more in every alternate week, or of 40 hours or more in every third week.

(2) Each worker shall have an interval of two unemployed shifts between each two shifts of employment.

(3) An interval of not less than half an hour shall be allowed if the shift is 8 hours or less, and an interval of not less than one hour if the shift is more than 8 hours.

Provided that the superintending inspector of factories may authorize, subject to compliance with condition (1) and to such other conditions as he may impose, different arrangements as regards hours of work and breaks at the week end for the purpose of changing over the shifts.

Scheme B. (Two Shifts.)

This scheme applies to women and female persons of 16 years of age and over and male young persons of 14 years of age and over, provided that the employment in the night shift of girls under 18 or boys under 16 years of age shall be subject in each case to the approval of the superintending inspector of factories. Two shifts of 12 hours each may be worked, subject to the following conditions :

(1) No person shall be employed more than 6 turns by day or more than 6 turns by night in any week.

(2) Unless otherwise sanctioned by the superintending inspector no person shall be employed on Sunday except in a night shift commencing on Sunday evening or ending on Sunday morning.

(3) The total hours worked per week (exclusive of meal times) shall not exceed 60 provided that in the case of male young persons 16 years of age and over the total hours worked per week (exclusive of meal times) may be 63.

(4) Intervals for meals amounting to not less than 1½ hours shall be allowed in the course of each shift, of which in the case of the night shift one-fourth of an hour or more shall be allowed as a break within 4 hours of the end of the shift.

(5) Each worker shall have an interval of one unemployed shift between each two shifts of employment.

Providing that the superintending inspector may authorize, subject to such conditions as he may impose, a system of one long shift, not exceeding 13 hours with a corresponding reduction in the other shift, so that the average weekly total of hours shall not exceed the limits specified above in paragraph (3).

Scheme C. (Rearrangement of Statutory Hours.)

This scheme applies to women and female young persons of 16 years of age and over, and male young persons of 14 years of age and over.

In the case of such women and young persons the hours of work and intervals for meals allowed by the (factory and workshop) act may be arranged, subject to the following conditions:

- (a) The total hours worked per week (exclusive of intervals for meals) shall not exceed 60.
- (b) The daily period of employment (including overtime and intervals for meals)—
 - (1) Shall not commence earlier than 6 a.m. or end later than 10 p.m.
 - (2) Shall not exceed 14 hours.
- (c) Intervals for meals amounting to not less than 1½ hours shall be allowed during the period of employment, with an additional half an hour if the period of employment is more than 13½ hours.
- (d) No overtime shall be worked on Saturday.

Naval Ship Repairing Work.

In cases of special emergency women, female young persons of 16 years of age and over, and male young persons of 14 years of age and over, employed on repair work for His Majesty's ships may be employed for special hours on any day of the week on the express instructions of the senior naval officer in charge and subject to such conditions as he may lay down as regards intervals for meals and rest, provided that in any case—

- (1) No male young person over 16 years of age shall be employed for more than 67½ hours in the week (exclusive of intervals for meals and rest).
- (2) No other young person or woman shall be employed for more than 65 hours in the week (exclusive of intervals for meals and rest).

Miscellaneous Provisions.

No woman or young person shall be employed continuously at any time for more than five hours without an interval of at least half an hour, except that where not less than one hour is allowed for dinner, an afternoon spell of six hours may be worked, with an interval of quarter of an hour only for tea, if the factory inspector is satisfied that adequate provision is made for the worker to obtain tea in the works and for tea to be actually ready for them as soon as they stop work.

If work commences before 8 a.m. and no interval is allowed for breakfast, an opportunity shall be given to take refreshment during the morning.

A woman or young person shall not be allowed to lift, carry, or move anything so heavy as to be likely to cause injury to the woman or young person.

Different schemes of employment may be adopted and different intervals for meals fixed for different sets of workers.

Employment on night shifts shall be subject to the provision, to the satisfaction of the factory inspector, of proper facilities for taking and cooking meals, and in the case of female workers, for their supervision by a welfare worker or a responsible forewoman.

Circular letter 196802 to accompany Home Office Order of Sept. 9, 1916.

No requirement is laid down in the order that workers on the night shift shall change periodically to the day shift. The matter is left to the individual employers to determine in consultation with their work-people. Care should be taken in selecting women and young persons for night work. They should not be put on night work indiscriminately.

Appendix K

DISTRIBUTION OF YOUNG PERSONS BETWEEN DIFFERENT EMPLOYMENTS IN JULY, 1914, OCTOBER, 1917, AND JANUARY, 1918

(Compiled from Ministry of Reconstruction, *Juvenile Employment during the War and After*, pp. 10, 11, 77.)

	Total Boys and Girls Under 18				Total Boys Under 18				Total Girls Under 18			
	Estimated numbers employed Oct. 1917	Estimated numbers employed Jan., 1918	Increase or decrease July, 1914-Jan., 1918	Estimated numbers employed Oct. 1917	Estimated numbers employed Jan., 1918	Increase or decrease July, 1914-Jan., 1918	Estimated numbers employed Oct. 1917	Estimated numbers employed Jan., 1918	Estimated numbers employed Oct. 1917	Estimated numbers employed Jan., 1918	Increase or decrease July, 1914-Jan., 1918	Estimated numbers employed Jan., 1918
Building	50,000	48,000	- 12,300	44,000	42,000	- 17,000	6,000	6,000	6,000	4,700	+	4,700
Mines and Quarries	163,000	178,000	+ 11,300	164,000	174,000	+ 9,000	4,000	4,000	4,000	2,250	+	2,250
Metal Trades	404,000	409,000	+ 173,800	296,000	303,000	+ 113,000	108,000	106,000	108,000	60,800	+	60,800
Chemical Trades	47,000	48,000	+ 22,300	22,000	22,000	+ 7,500	25,000	26,000	25,000	14,850	+	14,850
Textile Trades	329,000	324,000	- 15,000	116,000	114,000	- 10,000	213,000	210,000	213,000	5,000	+	5,000
Food, Drink and Tobacco	96,000	96,000	+ 7,200	43,000	43,000	+ 3,000	53,000	53,000	53,000	4,200	+	4,200
Clothing Trades	169,000	169,000	- 19,600	45,000	45,000	- 3,000	124,000	124,000	124,000	16,550	-	16,550
Printing	73,000	74,000	- 11,700	30,000	30,000	- 10,000	45,000	44,000	45,000	1,750	+	1,750
Paper and Printing	54,000	55,000	+ 10,000	34,000	34,000	+ 500	20,000	21,000	20,000	10,500	+	10,500
Wood Trades	80,000	81,000	+ 10,000	43,000	44,000	+ 1,000	37,000	37,000	37,000	11,000	+	11,000
Other Industries												
Industries Total	1,472,000	1,482,000	+ 176,000	837,000	851,000	+ 91,000	635,000	631,000	635,000	85,000	+	85,000
Municipal gas, water, electricity ..	4,000	3,500	+ 2,000	3,000	3,000	+ 1,500	1,000	500	1,000	500	+	500
Government establishments	32,000	30,000	+ 27,000	22,000	21,000	+ 18,000	10,000	9,000	10,000	9,000	+	9,000
Agriculture	136,000	130,000	- 9,000	118,000	113,000	- 14,000	18,000	17,000	18,000	5,000	+	5,000
Transport	101,500	102,500	+ 25,100	89,500	90,500	+ 14,000	12,000	12,000	12,000	10,700	+	10,700
Finance and commerce	427,000	416,000	- 94,000	224,000	216,000	- 22,500	203,000	200,000	203,000	116,500	+	116,500
Professional occupations	29,000	27,000	+ 8,000	18,000	17,000	+ 3,000	11,000	10,000	11,000	5,000	+	5,000
Hotels, cinemas, theaters	30,000	32,000	+ 7,000	17,000	19,000	+ 6,500	13,000	13,000	13,000	3,800	+	3,800
Post Office	24,000	23,000	+ 4,000	10,000	9,000	+ 7,800	14,000	14,000	14,000	3,800	+	3,800
Other civil service	13,500	14,500	+ 11,400	4,500	4,500	+ 1,500	9,000	10,000	9,000	9,900	+	9,900
Local government (including education, but excluding Municipal												
trans, water, gas, electricity) ..	18,000	17,500	+ 4,500	10,000	10,000	+ 2,400	8,000	7,500	8,000	2,100	+	2,100
Grand Total	2,287,000	2,278,000	+ 342,000	1,353,000	1,354,000	+ 94,000	934,000	924,000	934,000	248,000	+	248,000

Appendix L

POSTWAR EMPLOYMENT

(Tables Compiled from *Labour Gazette*, May, 1919, pp. 287-288; October, p. 418; November, p. 473.)

1. Number of Out-of-Work Donation Policies Outstanding Weekly for Ten Months of 1919.

Week Ending	Civilians					Demobilized Members of H. M. Forces			
	Men	Boys	Women	Girls	Total	Men	Women	Total	Grand Total
Jan. 3	101,390	16,988	224,955	13,374	356,707	23,938	50	23,988	380,695
Jan. 10	119,315	16,462	265,479	16,365	417,621	31,543	88	31,631	449,252
Jan. 17	139,113	18,131	303,813	18,018	479,075	40,400	131	40,531	519,606
Jan. 24	156,671	20,543	343,742	22,259	543,215	47,209	170	47,379	590,594
Jan. 31	177,361	22,562	399,864	25,362	625,149	53,316	238	53,554	678,703
Feb. 7	191,371	24,538	427,734	26,790	670,433	63,277	380	63,657	734,090
Feb. 14	212,205	26,752	452,810	28,183	719,950	84,298	394	84,692	804,642
Feb. 21	218,278	28,195	470,294	31,544	748,311	132,471	841	133,312	881,623
Feb. 28	227,836	28,019	494,471	32,037	782,363	165,429	828	166,257	948,620
Mar. 7	234,402	27,356	494,365	34,398	790,521	200,686	1,025	201,711	992,232
Mar. 14	208,540	26,327	485,784	31,070	751,721	235,737	1,161	237,898	988,619
Mar. 21	207,973	27,567	474,432	28,082	738,074	264,257	995	265,252	1,003,326
Mar. 28	209,486	26,461	488,655	29,380	753,982	305,251	1,012	306,263	1,060,245
Apr. 4	214,263	26,148	469,550	30,189	740,155	336,570	961	337,531	1,077,686
Apr. 11	217,538	26,093	455,736	30,134	729,501	347,895	917	348,812	1,078,313
Apr. 18	210,119	23,882	452,144	29,279	715,424	369,992	1,013	371,005	1,086,429
Apr. 25	215,687	23,679	443,941	28,964	712,271	379,799	1,258	381,057	1,093,328
May 2	214,761	23,040	422,890	29,242	689,933	402,151	1,316	403,467	1,903,400
May 9	191,651	19,175	366,536	20,871	598,233	.....	.....	409,959	1,008,192
May 16	178,284	16,845	312,373	17,023	524,525	.....	.....	403,356	927,881
May 23	164,569	14,988	250,010	14,869	444,436	.....	.....	402,036	846,472
May 30	150,250	12,912	207,897	13,231	384,290	.....	.....	386,921	771,211
June 6	135,317	10,405	169,621	9,880	325,223	.....	.....	385,652	710,875
June 13	123,134	8,439	146,578	7,910	286,061	.....	.....	378,768	664,829
June 20	116,158	7,551	132,649	7,491	263,849	.....	.....	381,247	645,096
June 27	106,661	6,615	113,462	6,544	233,282	.....	.....	372,843	606,125
July 4	100,270	5,905	100,576	6,077	212,828	.....	.....	366,197	579,025
July 11	96,472	5,341	91,413	6,155	199,381	.....	.....	365,768	565,149
July 18	92,762	4,985	83,755	5,707	187,209	.....	.....	362,982	550,191
July 25	93,828	5,226	72,813	5,354	177,221	.....	.....	363,663	540,884
Aug. 1	100,228	6,529	73,878	6,176	186,811	.....	.....	366,671	553,482
Aug. 8	98,298	6,245	64,029	5,673	174,245	.....	.....	362,741	536,986
Aug. 15	94,863	6,669	61,065	6,093	168,690	.....	.....	361,833	530,523
Aug. 22	92,345	6,267	55,526	5,182	159,320	.....	.....	350,755	510,075
Aug. 29	83,035	5,006	49,038	4,053	141,132	.....	.....	336,952	478,084
Sept. 5	72,113	4,008	40,701	3,041	119,863	.....	.....	326,751	446,614
Sept. 12	66,686	3,236	36,230	2,471	108,623	.....	.....	311,959	420,582
Sept. 19	63,557	3,111	34,448	2,334	103,450	.....	.....	305,253	408,703
Sept. 26	62,435	3,151	32,915	2,230	100,731	.....	.....	302,272	403,003
Oct. 17 ¹	70,589	4,371	29,622	2,586	107,168	.....	.....	337,948	445,116
Oct. 24	86,036	6,551	30,396	2,672	125,655	.....	.....	343,672	469,327
Oct. 31	94,058	7,349	30,940	2,838	135,185	.....	.....	344,242	479,427

¹ Figures for Oct. 3 and 10, on account of special arrangements made during the railway strike of these weeks, are not given.

2. Number of Unemployed Women and Girls by Industries.
a. In Insured Industries.

Trade	Number Insured January 12, 1919	Number Unemployed April 25, 1919	Number Unemployed October 31, 1919
Building	6,152	950	55
Construction of Works	1,825	46	1
Shipbuilding	8,810	522	21
Engineering and Ironfounding.....	419,524	35,614	1,426
Construction of Vehicles	17,577	6,336	107
Sawmilling	812	331	17
Other	171	1	....
Total Insured Under Act of 1911.....	454,871	43,800	1,627
Iron and Steel Manufacture.....	12,805	400	18
Tinplate Manufacture	3,550	92	23
Wire Manufacture	9,431	828	46
Anchor, Chains, Nails, Bolts, Nuts, Rivets, etc....	12,690	2,888	160
Brass	8,413	219	6
Copper, Tin, Lead, Zinc, etc.	10,561	738	62
Hardware and Hollowware	49,749	5,437	228
Tools, Files, Saws, Implements, Cutlery.....	6,432	827	64
Clocks, Plate, Jewelry	6,175	388	27
Needles, Pins, Typefounding, Dyes, etc.	6,664	336	15
Electrical, Scientific, etc., Appliances and Apparatus	28,866	2,152	151
Miscellaneous Metal	5,185	1,455	70
Ammunition and Explosives	197,128	5,818	100
Chemicals	34,071	2,631	193
Leather and Leather Goods.....	31,313	2,679	162
Brick, Tile and Artificial Building Material.....	9,804	1,172	59
Sawmilling, Machined Woodwork and Wooden Cases	30,176	2,049	51
Rubber and Manufactures Thereof.....	35,319	2,369	151
Total insured Under Act of 1916.....	496,332	32,478	1,595
Grand Total	951,203	76,278	3,222

b. In Uninsured Industries.

Trade	Number of Policies of Women and Girls Remaining Lodged	
	April 25, 1919	October 31, 1919
Agriculture	1,956	152
Conveyance of Men, Goods and Messages.....	11,932	962
Mines and Quarries	982	78
Cotton	81,635	1,171
Woolen and Worsted	4,670	162
Other Textiles, including Printing, Dyeing, etc.....	35,835	1,951
Commercial	24,124	8,616
Food, Drink and Tobacco.....	19,926	1,818
Dress	26,519	2,924
Domestic Offices and Services.....	84,529	7,348
General Laborers, Factory Workers, etc.....	56,900	3,740
Other Uninsured Industries	48,877	5,632
Total	397,885	34,554

Appendix M

List of trades in which women have been substituted for men during the war, but "which from their nature and other conditions of work appear in the main unsuitable for female labor in normal times."

(Compiled from the British Home Office report on the "Substitution of Women in Nonmunition Factories during the War," pp. 16-26.)

Sawmilling	Rope and Binder Twine
Wood Wool Manufacture	Heavy Edge Tools
India Rubber	Scythes and Sickles
Heavy Chemicals	Wire Ropes (heavy)
Oil and Seed Crushing	Shale Oil Refining
Glasshouse processes	Cement Manufacture
Flint Glass	(most processes)
Glass Bottles	Feltmongering
Papermaking	Matting
Flour and Corn Milling	Linoleum Manufacture (except a
Sugar Refining	few light processes)
Gas Manufacture	Paints and colours
	China and earthenware

Appendix N

AVERAGE WAGES OF WOMEN AND GIRLS IN NON-MUNITION TRADES IN THE UNITED KINGDOM.

(Calculated from Monthly Returns made by Employers to the Department of Labour Statistics.)¹

LAST WHOLE WEEK IN EACH MONTH.

Industry	Ordinary week in 1906	May-Aug. 1915	Sept.-Dec. 1915	Jan.-April 1916	May-Aug. 1916	Sept.-Dec. 1916	Jan.-April 1917	May-Aug. 1917	Sept.-Dec. 1917	Jan.-April 1918	May-Aug. 1918
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Cotton	16 2	17 1	17 0	17 11	18 4	18 9	19 7	20 7	21 5	23 3	24 1
Woolen and worsted.....	12 1	15 3	15 6	16 1	16 8	17 11	19 8	19 9	21 9	22 8	25 3
Linen	9 9	10 7	10 10	11 3	11 11	12 5	13 8	15 4	17 1	18 8	20 4
Jute	12 5	18 4	18 10	18 10	19 2	20 2	20 4	22 7	23 9	24 4	24 7
Hosiery	12 3	15 9	15 10	16 8	17 2	17 1	18 5	20 0	20 7	22 6	23 10
Lace	11 7	13 3	13 6	14 0	14 4	14 10	15 6	16 9	17 11	18 6	19 2
Silk	9 9	12 0	12 5	12 11	13 5	13 7	14 9	15 7	17 2	18 7	20 5
Carpet	11 10	16 8	16 4	17 1	17 0	17 5	18 9	20 4	21 3	22 11	24 4
Bleaching, etc.	11 0	14 5	15 0	15 7	15 9	17 3	18 6	20 10	22 3	23 10	24 9
Boot and shoe.....	10 6	15 4	14 10	14 7	16 3	16 7	17 6	19 6	20 6	22 3	22 10
Shirt and collar	11 4	13 7	13 7	14 1	14 7	14 10	15 9	17 2	18 3	19 11	21 5
Ready-made tailoring	10 10	15 2	14 2	14 10	15 7	16 0	17 4	18 9	21 5	23 2	25 8
Printing	9 8	12 3	12 7	13 7	13 6	14 5	15 9	16 4	18 2	19 10	21 8
Bookbinding	10 2	12 3	12 8	13 0	13 0	14 3	15 2	16 1	17 11	19 11	21 6
Pottery	10 1	12 2	12 5	12 3	12 10	13 1	13 8	16 11	17 7	19 1	21 7
Glass	8 6	10 3	11 2	10 9	11 1	11 9	12 1	13 9	14 9	15 6	16 10
Food preparation	10 0	14 5	14 10	15 2	15 2	17 6	18 3	20 2	21 7	23 0	24 5
Total.....	12 8	14 9	14 10	15 4	15 10	16 8	17 8	19 1	20 5	21 10	23 6a

a Includes "Paper Making."

¹ Great Britain Ministry of Reconstruction, *Report of the Committee on Women's Employment*, p. 82.

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